Grade 5
MATH
Fall Semester

80 Daily Learning Opportunities

"Layering a Sound Foundation"

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As every educator is acutely aware, classroom teaching requires a significant investment in time and preparation in both core lessons and lesson resources. The Amara educators that created these resources not only prepared for teaching in their classrooms but invested additional time away from the classroom to produce these resources as well. The purchase cost of any Amara resource does not yield a high profit margin. However, it is our hope and goal to provide quality resources at a low price per teacher and grade level, and that these curricular resources are effective for children's learning in all socioeconomic settings.

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Thank you,

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AMARA 4
EDUCATION

Introduction and Implementation – Bridge Resource

Thank you for purchasing an instructional product from Amara 4 Education.

This introduction is intended to:

- Enhance teacher understanding on the overall design of the daily resource
- Detail recommended implementation processes to increase student performance
- Provide strategies for efficient and effective pedagogy to heighten student numeracy in the classroom

Intermediate Bridge Resource Design: *Fall and Spring Semester*

Both the fall and spring semester Bridge Resources consist of eighty (80) daily learning opportunities with a detailed answer key located at the end of the 80 exercises. These two resources provide a simultaneous review of content as well as a daily opportunity for students to solve application word problems. The grade level is indicated by a series of triangles, dots, circles or stars in the learning opportunity header. These symbols are used in lieu of numbers to reduce self-esteem issues of children receiving special education services working in a below grade level Bridge Resource.

The ***fall semester*** Bridge Resource has a two-fold objective - build grade level numeracy and support the daily core lessons as well as rectify prior grade level numeracy skill gaps. The Bridge Resource is specifically designed for students to acquire rudimentary mathematical operational skills from both a conceptual and physical mathematics perspective. Each of the 80 Learning Opportunities in the fall semester is divided into three sections:

PART 1 -- Numeracy Development
PART 2 -- Application Practice
PART 3 -- Reflection and Conceptual Understanding.

The daily learning opportunities are designed to sequentially build and provide a spiral review. Students are exposed to skills and concepts prior to engaging in the associated application process on a daily opportunity and are provided repeated practice on specific skills to ensure verification of mastery.

If students require pre-requisite skill building practice, a *Skill Support Package* is available for purchase. This 50 plus page resource with solutions contains specific numeracy skills that provide additional practice and support to students in key numeracy areas at each grade level.

The ***spring semester*** Bridge Resource is aimed at solidifying numeracy and basic application, and it also has a design objective to prepare students for the expected rigor of your State's accountability spring assessment. Hence, each learning opportunity may begin in the Fall Semester format, but then separates into Numeracy Development and Application Rigor. The daily resource transitions to a landscape design to prepare students for the formatting and problem rigor of the state assessment.

Bridge Resource Implementation

The implementation and consistent daily use are key aspects to the overall performance of any system. A Bridge Resource is not an exception to this thinking. In addition to the core lesson, it is paramount that a daily learning opportunity be a structural and consistent part of the daily ninety (90) minute math block. Students master skills and applications if sufficient practice is provided. Conversely, students will not master skills that are not adequately practiced.

It is important to note that effective implementation of a Bridge Resource usually requires more time at the beginning of the semester to set up and establish efficient routines and clearly communicate teacher

expectations. However, as students are consistently engaged in the daily process, the time required for a student to complete a single daily learning opportunity is significantly lessened within a few weeks of implementation. With any pedagogy or instructional resource, the teacher must guide and hold students accountable to ensure quality engagement each day.

Prior to implementation, it is advisable and frequently less expensive for a local reproduction company to copy all 80 learning opportunities pages and secure the pages with a plastic binder that allows a 'daily student resource' to lie flat on a desk when fully opened. It is also recommended that the pages be reproduced on single-sided sheets. Doing so will allow students to use the corresponding blank page to neatly show their work in an organized manner – as conveyed by the classroom teacher.

When each student is provided their own bound Bridge Resource, a running record is created so each child's work history can be reviewed by a teacher, administrator or parent to provide documentation of a student's daily progress over time. Individually bound Bridge Resources also afford time efficiency in a teacher's daily routines since he or she is not required to make Xerox copies each day or distribute and collect papers. Students readily retrieve their bound Bridge Resource from their desk and independently engage that day's learning opportunity.

The **implementation recommendations** listed below are intended to maximize student learning and academic performance using an Amara Bridge Resource.

1. It is highly recommended that the teacher solves the learning opportunity for that day in advance, so they are aptly prepared for the exercise solutions and any pedagogical points to emphasize on each exercise. Therefore, the teacher must also have an assigned booklet.
2. When students are first introduced to this resource, teachers should model their expectations on the quality and specific organizational structure of student daily work. The teacher may model these expectations with a guided practice for at ***least*** 3 separate learning opportunities. At that point, students may work independently via a structured setting – complete a numbered exercise in accordance with teacher expectations – stop – and check the problem together. A deliberate and clearly modeled implementation process ensures high quality, accountable student work.
3. An effective means to accomplish this task is to require students to draw a rectangular grid on the corresponding blank page and show their computations for each numbered learning opportunity exercise in one of the grid's boxes.
4. Once the students begin to work through each of the problems, the teacher should continue to monitor the completion of problems by:
    - Stamping or 'marking with a check' that the problem(s) are/is correct.
    - Providing corrective feedback on those that are incorrect. If a student has made a computational error, have them check the problem and complete again, correctly.
    - Annotating in his/her own teacher booklet any conceptual or computational issues students may be struggling with due to lack of understanding. This assists the teacher to determine specific exercises that must be modeled and reviewed. Also, refer to the ***Skill Support Package*** or to the Formative Loop Resource Library to select appropriate skill practice and direction.
5. This resource and process serves as a daily diagnostic tool. If the teacher observes students incorrectly answer a specific skill or application, it is a clear indicator of a lack of skill or application mastery/retention. A short mini-lesson or spaced repetition instruction for three or four days invariably remedies a previous skill deficiency.

6. Upon completion of your allotted time for a learning opportunity, teacher may decide to guide students through a think-aloud of 1 or 2 problems that were challenging for the majority of students.

Recommendations on Numeracy Development

The 80 Learning Opportunities can be completed in less than 15 minutes each day ***with*** heightened student numeracy in basic math facts, multiple towers, and whole number line/fractional number line proficiency. One of the most important numeracy aspects that an elementary student must master to automaticity is the four basic math fact operations in addition, subtraction, multiplication and division. For example, the vast majority of operations involved in adding or subtracting mixed numbers, improper fractions, and proper fractions with unlike denominators is highly dependent upon a student's ability to efficiently apply prior math fact knowledge. Fortunately, nearly all intermediate grade level students can master the four operations during third (3^{rd}) grade, but an effective procedure must be securely in place.

A recommended and inexpensive daily numeracy program that assists students in learning and mastering both math fact and processing math skills is *Formative Loop*. This numeracy program requires a daily 5 minute paper-pencil ***written*** assessment and the program digitally tracks each student's progress. The *Formative Loop* numeracy program is individualized for each student, but a teacher can account for each student's progress in real time. The *Formative Loop* numeracy program also possesses a math fact sequence mastery in manageable chunks of daily exposure until the student is adequately prepared to successfully complete 100 mixed addition (or, subtraction, multiplication, or division) one-digit facts. Finally, *Formative Loop* offers a skill resource library that assists the classroom teacher with skill practice on almost any mathematical topic readily available for immediate download.

In order to aid students in mastering the four math fact operations and processing skills, specific numeracy skills are presented within the daily learning opportunities. These numeracy skills include: Making 10, Multiples (1-12) and Finding the Missing Factor (1-3), (4-6) and (7-9). Those support skill sheets are included in the ***Skill Support Package*** available for purchase on the Amara 4 Education website. Additionally, Amara offers free downloadable math incentives that are singularly designed to intrinsically motivate students to master their math facts. The website also provides free downloadable white papers and resources on various instructional pedagogy.

If any educator has constructive criticism on what we can do better, please contact us at the email address on the front cover. We appreciate any and all feedback that our team of teachers and administrators can use to better serve the needs of your students.

Thank you,

Amara

Bridge Resource - Table of Contents	
Section 1	**Daily Learning Opportunities (01 – 80)**
Section 2	**Daily Learning Opportunities (01 – 80) Answer Key**

Grade 5

Mathematics

Fall Semester

80 Daily Learning Opportunities

Student Name: _____

Teacher Name: _____

Fall Learning Opportunity 01
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find the *sum*:

a.) 10 + 37 = ☐

b.) 62 + 20 = ☐

c.) 48 + 61

d.) 85 + 27

2. Find the *difference*:

a.) 67 - 32

b.) 54 - 26

c.) 92 - 52

d.) 80 - 34

3. Find the missing *addend* to sum 100.

a.) 80 + _____ = 100

b.) 50 + _____ = 100

c.) 90 + _____ = 100

d.) 70 + _____ = 100

4. Is the number *even or odd*?

a.) 6 ⇨ _____

b.) 31 ⇨ _____

c.) 64 ⇨ _____

d.) 0 ⇨ _____

5. Expand each number to show each digit's *value*.

a.) 22,307 = *20,000 + 2,000 + 300 + 0 + 7*

b.) 8,029 = _____

c.) 13,080 = _____

d.) 39,705 = _____

6. Fact Family Review.

5 + 6 = 11

_____

11 - 6 = 5

_____

PART 2: *Application Practice*

7. Bill is thinking of a number. It is a *two digit number* that is *greater* than 41. The number is also an *odd number*. Find Bill's number.

Ⓐ 28 Ⓒ 109

Ⓑ 42 Ⓓ 73

8. Carolyn has 91 plants in her garden. If she removes 62 plants, what will be the total number of plants that remain in her garden?

Ⓐ 27 Ⓒ 9

Ⓑ 22 Ⓓ 29

9. A teacher wrote the number, "20,589" on the classroom white board. What is the *place value* and *value* of the '0' digit in that number?

☐

10. Bojing is 19 years old. His brother, Chao-Lin, is 13 years older than Bojing. How old is Chao-Lin?

☐

PART 3: *Reflection and Conceptual Understanding*

Math equations may have parenthesis - ( ). The parenthesis mean the following, *"Do my math first!"* Find the answer to each of the math equations below.

a.) (5 + 3) - 2 = ☐ **b.)** 10 - (1 + 3) = ☐ **c.)** (4 + 2) + (1 + 0) = ☐

Fall Learning Opportunity **02**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find the *sum*:

a.) 40 + 42 = ☐

b.) 78 + 30 = ☐

c.) 428 + 641

d.) 994 + 207

2. Find the *difference*:

a.) 99 - 8

b.) 70 - 43

c.) 192 - 28

d.) 850 - 334

3. Find the missing *addend* to sum 100.

a.) 40 + _____ = 100

b.) 60 + _____ = 100

c.) 30 + _____ = 100

d.) 10 + _____ = 100

4. Is the number *even or odd*?

a.) 59 ⇨ _____

b.) 231 ⇨ _____

c.) 564 ⇨ _____

d.) 100 ⇨ _____

5. Expand each number to show each digit's *value*.

a.) 64,470 = _____

b.) 48,002 = _____

c.) 17,000 = _____

d.) 80,301 = _____

6. Fact Family Review.

3 + 9 = 12

_____

_____

_____

PART 2: *Application Practice*

7. Jasmine is thinking of a number that is even and a 3-digit number. Which of the numbers below is Jasmine's?

Ⓐ 88 Ⓒ 996

Ⓑ 421 Ⓓ 687

8. Jesus and Max collected butterflies. Jesus had 246 butterflies in his collection and Max had 450. How many more butterflies does Max have than Jesus?

Ⓐ 204 Ⓒ 796

Ⓑ 214 Ⓓ 216

9. Luz wrote the number 50,346 in her notebook. What is the place value and value of the 5 in that number?

☐

10. Bettina is 20 years old. Pat is half the age of Bettina, and Pat is 6 years older than Luis. What are Pat and Luis' ages?

Pat = _____ Luis = _____

PART 3: *Reflection and Conceptual Understanding*

Math equations may have parenthesis - ( ). The parenthesis mean the following, *"Do my math first!"* Find the answer to each of the math equations below.

a.) (8 + 7) - 6 = ☐ **b.)** 12 - (9 - 4) = ☐ **c.)** (2 + 8) + (4 + 3) = ☐

Fall Learning Opportunity **03**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find the *sum*:

a.) 428 + 641 **b.)** 356 + 409

2. Find the *difference*:

a.) 921 - 240 **b.)** 706 - 449

3. Find the missing *addend* to sum 100.

a.) **50 + _____ = 100**

b.) **20 + _____ = 100**

4. Is the number *even or odd*?

a.) 1,009 ⇨ _____

b.) 964 ⇨ _____

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 1:* ***0*** , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 10:* ***0*** , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

6. Expand each number to show each digit's *value*.

a.) **90,082 =** _____

b.) **61,320 =** _____

c.) **34,000 =** _____

7. Write the **Fact Family** for 4, 12, and 8.

_____ _____

_____ _____

PART 2: *Application Practice*

8. Find the number that is between 150 and 400 and is even.

Ⓐ 177 Ⓒ 402

Ⓑ 200 Ⓓ 148

9. The distance between Los Angeles and San Francisco is 382 miles. What is the total distance when a person travels from Los Angeles to San Francisco and back to Los Angeles?

Ⓐ 764 Ⓒ 754

Ⓑ 191 Ⓓ 664

10. The *5th Grade Daily Math Challenge* required students to write the number that has 7 ten thousands, 4 tens, 3 ones, 2 hundreds and 0 thousands. Write the number in **standard form** on the line below.

_____

11. Jeff's age is double that of Dan's. If Dan is 12 years old, what is Jeff's age?

Jeff = _____

PART 3: *Reflection and Conceptual Understanding*

Math equations may have parenthesis - ( ). The parenthesis mean the following, *"Do my math first!"* Find the answer to each of the math equations below.

a.) **(13 - 7) - 5 =** ☐ **b.)** **12 + (9 - 4) =** ☐ **c.)** **(2 + 8) - (4 + 1) =** ☐

Fall Learning Opportunity **04**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find the *sum*:

a.) 676 + 843 **b.)** 929 + 809

2. Find the *difference*:

a.) 775 - 369 **b.)** 600 - 387

3. Add up to find the missing *addend*.

a.) 95 + _____ = 100

b.) 85 + _____ = 100

4. Is the number *even or odd*?

a.) 13,072 ⇨ _____

b.) 21,965 ⇨ _____

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 1:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 10:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

6. Expand each number to show each digit's *value*.

a.) 130,082 = _____

b.) 321,605 = _____

c.) 409,190 = _____

PART 2: *Application Practice*

7. The teacher wrote the following two **addends** on the board: 6 and 9.

Write the **fact family** for the two addends on the lines below.

_____ _____

_____ _____

8. The table shows the number of ounces in two bottles each containing both soda and water.

Container	Soda	Water
Bottle 1	21 oz.	7 oz.
Bottle 2	19 oz.	15 oz.

Use the data in the table to answer the questions.

a.) What is the total ounces of liquid in bottle 2?

_____

b.) How much more soda than water is in both bottles 1 and 2? _____

9. Use the data in the box to compose the number in **standard form** on the line below.

5 thousands; 2 tens; 9 ten thousands;
0 ones; 0 hundreds; 3 hundred thousands

_____

PART 3: *Reflection and Conceptual Understanding*

Making 100 by **adding up**.

Fill in the missing numbers.

+ 5	+ 20	+	+	+	+	+	+ 0
75	80	100	85	90	100	55	60	100	95	100	100
75	25 ✓	85	✓	55	✓	95	✓

Fall Learning Opportunity 05
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add or Subtract.

a.) 9,595 + 8,063

b.) 5,506 - 2,063

2. *Make 10.*

8 ⇨ 2 7 ⇨ ☐

5 ⇨ ☐ 9 ⇨ ☐

3. Add up to find the missing *addend*.

a.) 75 + _____ = 100

b.) 65 + _____ = 100

4. Is the number *even or odd*?

a.) 33,338 ⇨ _____

b.) 79,370 ⇨ _____

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 2:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 20:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

c.) *Multiples of 3:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

d.) *Multiples of 30:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

6. Expand the number to show each digit's *value*.

760,041 = _____

PART 2: *Application Practice*

7. *Write* the correct name of each number.

WORD BANK
subtrahend, sum, minuend, difference, addend

+ **6** ⇨	*addend*	- **9** ⇨	
8 ⇨		**7** ⇨	
14 ⇨		**1** ⇨	

8. The table shows the number of boys and girls in the 4th and 5th grade at Graham Elementary.

Grade Level	Boys	Girls
Fourth	69	71
Fifth	58	75

Use the data in the table to answer the questions.

a.) What grade level has more students?

_____

b.) How many more girls are there than boys in the 4th and 5th grades? _____

9. The population of Las Vegas, Nevada is 641,578. What is the **place value** and **value** of the 6?

6 ↳ _____

PART 3: *Reflection and Conceptual Understanding*

Making 100 by **adding up**.

Fill in the missing numbers.

☐ ☐	☐ ☐	☐ ☐	☐ ☐
35 40 100	**15** 20 100	**55** 60 100	**45** 50 100
35 ☐ ✓	**15** ☐ ✓	**55** ☐ ✓	**45** ☐ ✓

Fall Learning Opportunity 06
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add or Subtract.

a.) 5,817 + 5,465

b.) 8,003 - 4,028

2. *Make 10.*

4 ⇨ ☐ 5 ⇨ ☐

8 ⇨ ☐ 7 ⇨ ☐

3. Add up to find the missing *addend*.

a.) 35 + _____ = 100

b.) 25 + _____ = 100

4. Round each to the nearest 10.

22 ⇨ ***20*** 35 ⇨ ____

36 ⇨ ____ 11 ⇨ ____

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 2:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 20:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

c.) *Multiples of 3:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

d.) *Multiples of 30:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

6. Expand the number to show each digit's *value*.

2,306,808 = _____

PART 2: *Application Practice*

7. *Write* the correct name of each number.

WORD BANK
sum, difference, subtrahend, minuend, addend

+ **9** ⇨	_____	- **5** ⇨	_____
7 ⇨	_____	**3** ⇨	_____
16 ⇨	_____	**2** ⇨	_____

8. The table shows the number of people that went to the movies on Friday and Sunday at *JJ's Theater*.

Movie	Friday	Sunday
Lion King	245	579
Avengers	789	855

a.) How many people watched the Avengers on Friday and Sunday?

_____

b.) What is the difference between the number of moviegoers watching Avengers rather than the Lion King on Sunday?

_____

9. Last year, 3,025,981 tourists visited Mt. Rushmore in South Dakota. What is the **place value** and **value** of the 3?

3 ↳ _____

PART 3: *Reflection and Conceptual Understanding*

Making 100 by **adding up**.

Fill in the missing numbers.

☐ ☐	☐ ☐	☐ ☐	☐ ☐
5 10 100	**25** 30 100	**45** 50 100	**75** 80 100
5 ☐ ✓	**25** ☐ ✓	**45** ☐ ✓	**75** ☐ ✓

Fall Learning Opportunity **07**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add.

$$\begin{array}{r} 25{,}309 \\ +\ \ 7{,}465 \\ \hline \end{array}$$

2. *Make 10.*

2 ⇨ ☐ 3 ⇨ ☐

0 ⇨ ☐ 1 ⇨ ☐

3. Multiply.

$$\begin{array}{r} 30 \\ \times\ \ 3 \\ \hline \end{array} \qquad \begin{array}{r} 51 \\ \times\ \ 5 \\ \hline \end{array} \qquad \begin{array}{r} 28 \\ \times\ \ 2 \\ \hline \end{array}$$

4. Round to the nearest 10.

73 ⇨ ___ 61 ⇨ ___ 8 ⇨ ___

45 ⇨ ___ 4 ⇨ ___ 13 ⇨ ___

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 3:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 30:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

c.) *Multiples of 4:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

d.) *Multiples of 40:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

6. Expand the number to show each digit's *value*.

43,057,950 = _____

PART 2: *Application Practice*

7. *Write* the correct name of each number.

WORD BANK
addend, subtrahend, difference, sum, minuend

6 ⇨	_____	8 ⇨	_____
1 ⇨	_____	3 ⇨	_____
5 ⇨	_____	11 ⇨	_____

8. Dao saved 32 dollars each month for 9 months. What is the total amount of money Dao saved?

Ⓐ $ 278 Ⓒ $ 288

Ⓑ $ 41 Ⓓ $ 23

9. Write the number that has 5 tens, 3 ones, 9 hundreds, 0 thousands and hundred thousands, 6 millions, 7 ten millions, and 4 ten thousands.

__ __ , __ __ __ , __ __ __

10. Luz placed pennies in the *array* shown on the right. Which equation can be used to find ***T***, the total number of pennies?

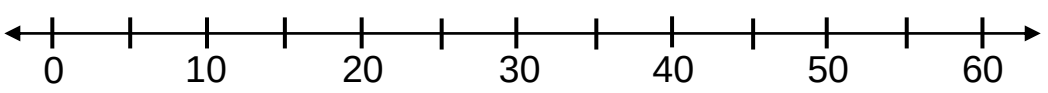
Ⓐ T = 5 x 3 Ⓒ T = 3 x 5

Ⓑ T = 5 + 5 Ⓓ Both A and C

PART 3: *Reflection and Conceptual Understanding*

Draw the arrows (↷) that represent the **multiplication equation** shown below. Remember that the first arrow must begin at '0'.

10 x 4 = 40



Fall Learning Opportunity **08**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Subtract.

$$\begin{array}{r} 35{,}302 \\ -\ \ 8{,}035 \\ \hline \end{array}$$

2. *Make 100.*

90 ➡ ☐ 75 ➡ ☐

85 ➡ ☐ 50 ➡ ☐

3. Multiply.

$$20 \times 7 \qquad 37 \times 6 \qquad 68 \times 5$$

4. Round to the nearest 10.

84 ➪ ___ 97 ➪ ___ 2 ➪ ___

25 ➪ ___ 9 ➪ ___ 65 ➪ ___

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 4:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 40:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

c.) *Multiples of 5:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

d.) *Multiples of 50:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

6. Expand the number to show each digit's *value*.

207,608,730 = _____

PART 2: *Application Practice*

7. *Write* the correct number in each box.

Number Bank

12 4 8 9 3 6

☐ ➪ *minuend*

\- ☐ ➪ *subtrahend*

☐ ➪ *difference*

☐ ➪ *addend*

\+ ☐ ➪ *addend*

☐ ➪ *sum*

8. On Saturday, Jesus ran 1 mile. He ran 3 miles on both Sunday and Monday. What is the total number of miles, ***M***, Jesus ran on all 3 days?

Ⓐ M = (3 x 3) – 1 Ⓒ M = (3 x 2) + 1

Ⓑ M = (1 x 1) + 3 Ⓓ M = (1 x 2) + 3

9. Write the number that has a 9 in the hundred millions place, a 2 in the ten millions place and a 5 in the thousands place. All other digits are equal to 0.

___ ___ ___ , ___ ___ ___ , ___ ___ ___

10. Find the equation ***R*** for the *star array* which calculates the total number of stars in the rectangular formation.

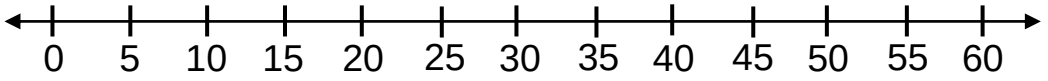
Ⓐ R = 4 x 4 Ⓒ R = 3 x 5

Ⓑ R = 6 x 3 Ⓓ R = 6 x 4

PART 3: *Reflection and Conceptual Understanding*

Draw the arrows (↷) that represent the **multiplication equation** shown below. Remember that the first arrow must begin at '0'.

15 x 3 = 45



Fall Learning Opportunity **09**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add.

$$\begin{array}{r} 32,367 \\ +\ 44,815 \\ \hline \end{array}$$

2. *Make 100.*

55 ➡ ☐ 15 ➡ ☐

25 ➡ ☐ 20 ➡ ☐

3. Multiply.

$$70 \times 8 \qquad 59 \times 6 \qquad 25 \times 6$$

4. Round to the nearest 100.

184 ➪ ___ 74 ➪ ___ 245 ➪ ___

135 ➪ ___ 23 ➪ ___ 350 ➪ ___

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 4:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 40:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

c.) *Multiples of 5:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

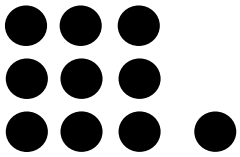
d.) *Multiples of 50:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

6. Expand the number to show each digit's *value*.

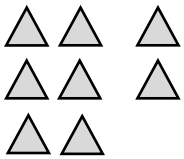
480,702,506 = _____

PART 2: *Application Practice*

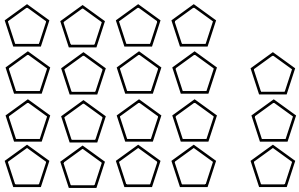
7. *Complete* the math equation for each figure to compute the total number of objects.



M = (3 x 3) + 1



T = (__ x __) + __



H = (__ x __) + __

K = __ + (__ x __)

8. Write the number that has a:

- 5 in the hundred millions *and* hundreds place.
- 2 in the hundred thousands *and* ones place.
- 3 tens *and* zero (0) in all other place locations.

__ __ __ , __ __ __ , __ __ __

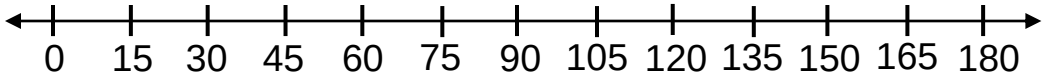
9. Ralph bought a printer for $ 325 and a computer for 1,680 dollars. How much money did he spend on his technology purchases?

$ ☐

PART 3: *Reflection and Conceptual Understanding*

Draw the arrows (↷) that represent the **multiplication equation** shown below. Remember that the first arrow must begin at '0'.

30 x 5 = 150



Fall Learning Opportunity 10
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Subtract.

$$\begin{array}{r} 57{,}005 \\ -\ 16{,}849 \\ \hline \end{array}$$

2. *Make 100.*

75 ➡ ☐ 5 ➡ ☐

35 ➡ ☐ 25 ➡ ☐

3. Multiply.

$$\begin{array}{r} 70 \\ \times\ 23 \\ \hline \end{array} \qquad \begin{array}{r} 59 \\ \times\ 16 \\ \hline \end{array}$$

4. Round to the nearest 100.

150 ➡ ____ 580 ➡ ____ 39 ➡ ____

323 ➡ ____ 351 ➡ ____ 509 ➡ ____

470 ➡ ____ 67 ➡ ____ 449 ➡ ____

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 6:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 60:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

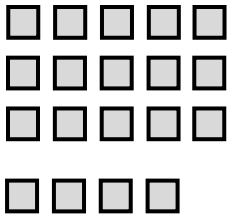
c.) *Multiples of 7:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

d.) *Multiples of 70:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

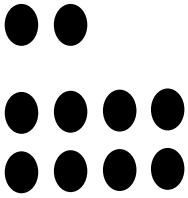
PART 2: *Application Practice*

6. *Complete* the math equation for each figure to compute the total number of objects.

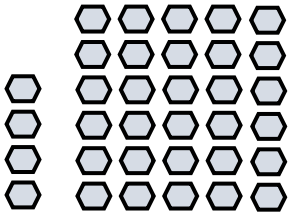
S = (___ x ___) + ___



N = (___ x ___) + ___



A = ___ + (___ x ___)



K = ___ + (___ x ___)

7. Ricardo makes 12 dollars *per* hour to work at the local grocery store. If he works 40 hours in one week, how much money will he earn?

Note: *per* means each.

$ ☐

8. Angela wants to purchase a new car for $18,464. If she makes $5,390 selling her old car, how much will the new car cost?

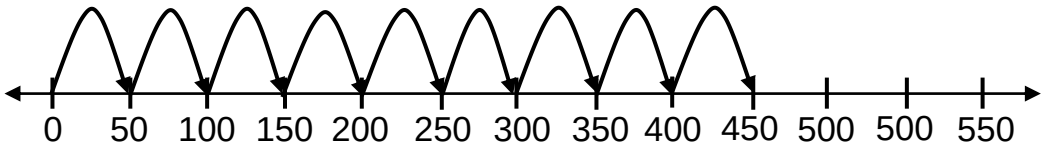
Ⓐ $ 23,854 Ⓒ $ 23,754

Ⓑ $ 13,074 Ⓓ $ 13,034

PART 3: *Reflection and Conceptual Understanding*

Write the **multiplication equation** that represents the diagram shown below.

___ **x** ___ **=** ____



Fall Learning Opportunity 11
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1 Whole (1.00)*

0.80 + *0.20* = 1.00 **0.60 + ____ = 1.00**

0.50 + ____ = 1.00 **0.90 + ____ = 1.00**

0.20 + ____ = 1.00 **0.70 + ____ = 1.00**

2. Multiply.

$$\begin{array}{r} 68 \\ \times\ 57 \\ \hline \end{array} \qquad \begin{array}{r} 62 \\ \times\ 12 \\ \hline \end{array}$$

3. Round to the nearest 100.

549 ⇨ ____ 52 ⇨ ____

841 ⇨ ____ 978 ⇨ ____

23 ⇨ ____ 850 ⇨ ____

4. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 6:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 60:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

c.) *Multiples of 7:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

d.) *Multiples of 70:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

PART 2: *Application Practice*

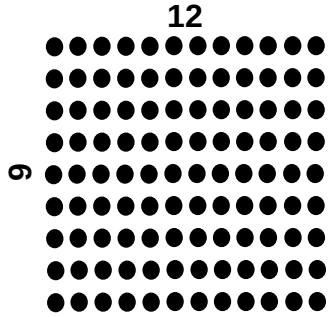
5. Evaluate and simplify each equation or expression.

(15 ÷ 5) – 2 = ***1*** 2 x (15 - 5) = ☐

(2 x 3) + 4 = ☐ 2 x 3 x 4 = ☐

(6 + 3) – 7 = ☐ 6 times 5 = ☐

6. Answer the questions about the **array**.



What are the array's **factors**?

_____

What is the array's **product**?

_____

7. Dharma drove her car at 65 miles *per* hour for 10 hours. How many total miles did she drive?

Note: *per* means each.

☐ miles

8. Sergio invested 85 dollars in a computer business. His investment *doubled* in value. How much money does Serio have now?

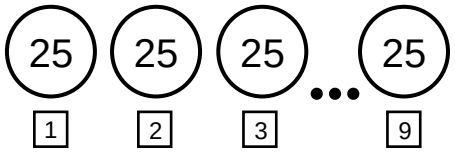
Ⓐ $ 0 Ⓒ $ 160

Ⓑ $ 170 Ⓓ $ 100

PART 3: *Reflection and Conceptual Understanding*

Write the **multiplication equation** and answer the questions on the **group model** diagram below.

___ x ___ = ____



a.) What are the equation's **factors**?

_____

b.) What is the equation's **product**?

_____

Fall Learning Opportunity 12
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1 Whole.*

0.30 + ____ = 1.00

0.10 + ____ = 1.00

0.40 + ____ = 1.00

2. Multiply.

$$\begin{array}{r} 92 \\ \times\ 56 \\ \hline \end{array}$$

3. Round to nearest 1,000.

5,349 ➪ ***5,000***

1,504 ➪ _____

794 ➪ _____

4. Write the *value* of the **bold** digit.

0.56**2** = ***0.002***

0.**9**1 = _____

0.**3**0 = _____

0.**6** = _____

0.0**5**6 = _____

0.10**7** = _____

5. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 6:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 60:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

c.) *Multiples of 7:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

d.) *Multiples of 70:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

PART 2: *Application Practice*

6. Evaluate and simplify each equation or expression.

(4 x 5) ÷ 2 = ☐

6 ÷ (12 ÷ 4) = ☐

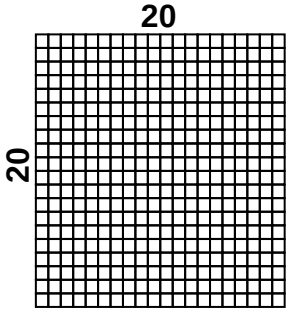
8 times 10 = ☐

6 x 2 x 2 = ☐

(13 – 6) x 6 = ☐

5 groups of 8 = ☐

7. Answer the questions about the **array**.



What are the array's **factors**?

_____

What is the array's **product**?

_____

8. Daniella placed toy soldiers in a rectangular array. There were 24 soldiers in each row and 12 soldiers in each column. How many total soldiers are in the Daniella's array?

☐ soldiers

9. Last Friday, 15,508 people watched Reagan High School play Mondale Senior High in football. Last year, only 4,783 people attended the game. How many more people attended this year's game?

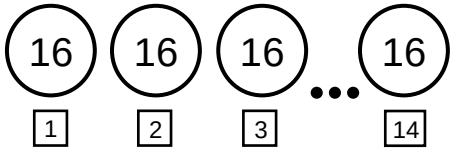
Ⓐ 20,291 Ⓒ 10,285

Ⓑ 19,281 Ⓓ 10,725

PART 3: *Reflection and Conceptual Understanding*

Write the **multiplication equation** and answer the questions on the **group model** diagram below.

___ **x** ___ **=** ____



a.) What are the equation's **factors**?

_____

b.) What is the equation's **product**?

_____

Fall Learning Opportunity 13
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1 Whole.*

0.30 + ____ = 1.00

0.20 + ____ = 1.00

0.10 + ____ = 1.00

2. Round each number to nearest 1,000.

6,500 ⇨ _____ 3,756 ⇨ _____

2,208 ⇨ _____ 8,900 ⇨ _____

400 ⇨ _____ 850 ⇨ _____

3. Write the *value* of the **bold** digit.

0.6**3** = _____ 0.**3**4 = _____

0.1**3**0 = _____ 0.**3** = _____

0.**3**09 = _____ 0.98**3** = _____

4. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 8:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 80:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

c.) *Multiples of 9:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

d.) *Multiples of 90:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

PART 2: *Application Practice*

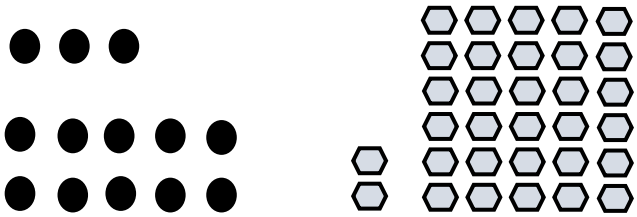
5. Evaluate and simplify.

(3 + 5) ÷ 2 = ☐ 9 ÷ (15 ÷ 5) = ☐

5 times 8 = ☐ 4 x 2 x 2 = ☐

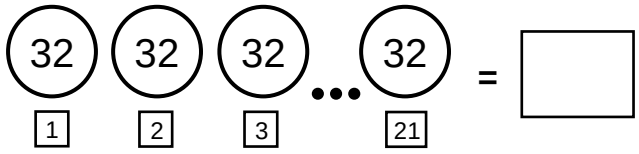
(11 – 9) + 7 = ☐ 4 groups of 9 = ☐

6. *Complete* the math equations.



B = (__ x __) + __ *C* = __ + (__ x __)

7. The teacher drew the following group model for multiplication on the board. What is the model's **product**?



= ☐

8. Corina drove her go-cart at 50 feet per second for 21 seconds. How many total feet did Corina travel?

Ⓐ 1,050 Ⓒ 29

Ⓑ 71 Ⓓ 1,550

PART 3: *Reflection and Conceptual Understanding*

Using an *'imaginary **1**'* under the decimal point and *adding zeros under each digit* is an easy way to change decimals to equivalent fractions. Use this method to find **equivalent fractions** for the decimals below.

a.) 0.06 ⇨ $\frac{0.06}{\mathbf{1}00} = \frac{6}{100}$ **b.) 0.409** ⇨ $\frac{0.409}{\mathbf{1}000} = \frac{\square}{\square}$ **c.) 0.9** ⇨ $\frac{0.9}{\square} = \frac{\square}{\square}$

Fall Learning Opportunity 14
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1 Whole.*

0.80 + ____ = 1.00

0.40 + ____ = 1.00

0.30 + ____ = 1.00

2. Round each number to nearest 1,000.

4,350 ⇨ _____ 6,173 ⇨ _____

1,780 ⇨ _____ 9,600 ⇨ _____

800 ⇨ _____ 210 ⇨ _____

3. Write the *value* of the **bold** digit.

0.7**6**9 = _____ 0.1**7** = _____

0.1**6** = _____ 0.**9** = _____

0.3**0** = _____ 0.50**9** = _____

4. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 8:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 80:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

c.) *Multiples of 9:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

d.) *Multiples of 90:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

PART 2: *Application Practice*

5. Evaluate and simplify.

(6 + 5) – 2 = ☐

3 groups of 6 = ☐

(11 x 9) + 1 = ☐

6. Zach had 12 bags with 25 pieces of gum in each bag. What are the factors and the product of his bags of gum?

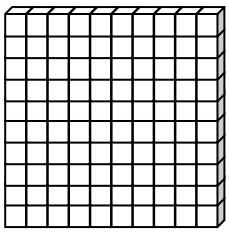
Factors: _____

Product: _____

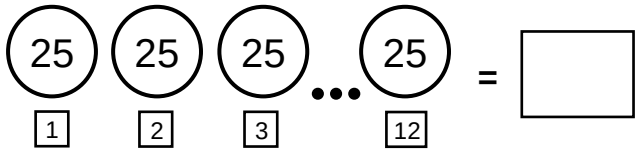
7. *Write* and shade the **equivalent fraction** to the decimal**.**

50 pennies = 50 cents =
= 2 quarters = 50¢ = 0.50

0.50 = $\frac{\square}{\square}$ ⇨



8. The teacher drew the following group model for multiplication on the board. What is the model's **product**?



9. Emily bought a computer for $857 and a printer for $115. *About* how much money did she spend?

Ⓐ $ 900 Ⓒ $ 1,000

Ⓑ $ 800 Ⓓ $ 700

PART 3: *Reflection and Conceptual Understanding*

Using an *'imaginary* **1***'* under the decimal point and *adding zeros under each digit* is an easy way to change decimals to equivalent fractions. Use this method to find **equivalent fractions** for the decimals below.

a.) 0.37 ⇨ $\frac{0.37}{1\,00}$ = $\frac{\square}{\square}$ **b.) 0.501** ⇨ $\frac{0.501}{1\,000}$ = $\frac{\square}{\square}$ **c.) 0.3** ⇨ $\frac{0.3}{\square}$ = $\frac{\square}{\square}$

Fall Learning Opportunity **15**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1 Whole.*

0.85 + ____ = 1.00

0.75 + ____ = 1.00

0.95 + ____ = 1.00

2. Round each number to nearest 1,000.

8,870 ⇨ _____ 4,589 ⇨ _____

6,280 ⇨ _____ 9,325 ⇨ _____

3,333 ⇨ _____ 921 ⇨ _____

3. Write the *value* of the **bold** digit.

0.0**8** = _____ 0.1**7**2 = _____

0.12**4** = _____ 0.7**9** = _____

0.**2** = _____ 0.**8**59 = _____

4. Correctly complete the **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 8:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 80:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

c.) *Multiples of 9:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

d.) *Multiples of 90:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

PART 2: *Application Practice*

5. Evaluate and simplify.

(12 x 3) + 4 = ☐

12 groups of 6 = ☐

(10 + 5) x 2 = ☐

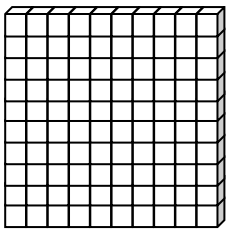
6. Hannah saved $35 each month for 18 months. Compute the total amount of money she saved.

$ ☐

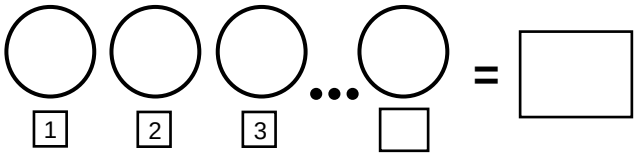
7. *Write* and shade the **equivalent fraction** to the decimal**.**

5 pennies = 5 cents = 5¢ = 0.05

0.05 = ☐/☐ ⇨



8. Complete the ***group model*** *diagram* using the factors and product from Problem 6 above.



9. Cayden bought a shirt for $22. He also bought two pairs of pants for $65. *About* how much more money did he spend on the pants than the shirt?

Ⓐ $ 50 Ⓒ $ 90

Ⓑ $ 80 Ⓓ $ 40

PART 3: *Reflection and Conceptual Understanding*

Using an *'imaginary* **1***'* under the decimal point and *adding zeros under each digit* is an easy way to change decimals to equivalent fractions. Use this method to find **equivalent fractions** and **mixed numbers**.

a.) 0.42 = ☐/☐ **b.) 0.307 =** ☐/☐ **c.) 0.5 =** ☐/☐ **d.) 3.2 =** ☐ ☐/☐

Fall Learning Opportunity 16
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1 Whole.*

0.55 + ____ = 1.00

0.75 + ____ = 1.00

0.65 + ____ = 1.00

2. Double each number.

20 ⇨ *40* **30 ⇨ ____**

10 ⇨ ____ **50 ⇨ ____**

15 ⇨ ____ **25 ⇨ ____**

3. Add or Subtract.

4,369 + 7,438

8,003 - 4,028

4. Fact family review.

5 x 3 = 15

5. Complete the ***decimal*** **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 0.01:* ***0*** , ***0.01*** , ***0.02*** , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 0.02:* ***0*** , ***0.02*** , ***0.04*** , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ***0.20***

6. Complete the whole number expansion in **Base 10 Place Value Form.**

4,530 = ***(4 x 1,000) + ( ) + ( ) + ( )***

PART 2: *Application Practice*

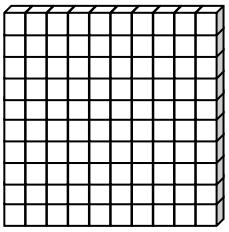
7. Sara drove a car at 55 feet per second for 26 seconds. What is the distance Sara traveled?

_____ **feet**

8. *Write* and shade the **equivalent fraction** to the decimal**.**

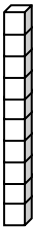
9 pennies = 9 cents = 9¢ = 0.09

0.09 = ____/____

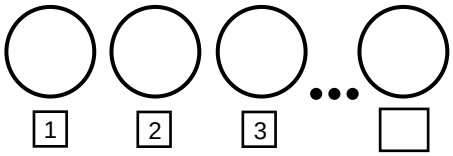


9 **dimes** = 90 cents = 90¢ = 0.90 = 0.9

0.9 = ____/____



9. Complete the group model diagram using the factors and product from Problem 7 above.



= _____

10. Angela *doubled* 20. Then, she *added* 10 and *divided* by 2. Finally, she *subtracted* 15. What was the number she calculated?

Ⓐ 20 Ⓒ 5

Ⓑ 10 Ⓓ 15

PART 3: *Reflection and Conceptual Understanding*

Using an *'imaginary* **1***'* under the decimal point and *adding zeros under each digit* is an easy way to change decimals to equivalent fractions. Use this method to find **equivalent fractions** and **mixed numbers**.

a.) **0.07 =** ____/____

b.) **2.51 =** ____ ____/____

c.) **0.005 =** ____/____

d.) **7.6 =** ____ ____/____

Fall Learning Opportunity 17
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1.00*

0.45 ⇨ ____

0.05 ⇨ ____

0.25 ⇨ ____

2. Double each number.

50 ⇨ ____ **40** ⇨ ____

15 ⇨ ____ **60** ⇨ ____

25 ⇨ ____ **30** ⇨ ____

3. Add or subtract decimals.

$$\underset{+\ 4.3}{5.4} \quad \underset{-\ 2.1}{7.5} \quad \underset{+\ 4.8}{8.2} \quad \underset{-\ 5.7}{9.0}$$

4. Fact family.

_____

_____

18 ÷ 6 = 3

_____

5. Complete the ***decimal*** **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 0.01:* ***0*** , ____ , ____ , ____ , ____ , ____ , ____ , ***0.07*** , ____ , ____ , ____

b.) *Multiples of 0.02:* ____ , ____ , ____ , ____ , ***0.08*** , ____ , ____ , ____ , ____ , ***0.18*** , ____

6. Complete the whole number expansion in **Base 10 Place Value Form.**

7,098 = _____

PART 2: *Application Practice*

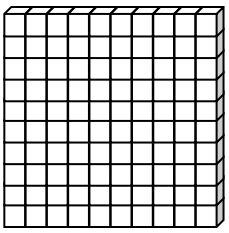
7. Katie had 5 dollars and 6 dimes. Perry had 3 dollars and 2 dimes. How much money do they have together?

$ __ . __ __

8. *Write* and shade the **equivalent fraction** or **mixed number.**

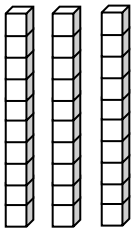
81 pennies = 81 cents = 81¢ = 0.81

0.81 = ☐/☐ ⇨



2 dollars and 4 dimes = 2.40 = 2.4

2.4 = ☐ ☐/☐ ⇨



9. Caleb planted 45 rows of corn with 75 plants in each row. How many total corn plants are in Caleb's field?

Ⓐ 3,055 Ⓒ 540

Ⓑ 3,375 Ⓓ 490

10. *Calculate* and *compare* (<, >, =) the two students' answers:

Jack = (4 x 5), Double, Subtract 10, Divide by 2 = ☐

Jill = (20 ÷ 5), Times 6, Subtract 20, Add 40 = ☐

____ (>) ____

PART 3: *Reflection and Conceptual Understanding*

Using an *'imaginary* **1***'* under the decimal point and *adding zeros under each digit* is an easy way to change decimals to equivalent fractions. Use this method to find **equivalent fractions** and **mixed numbers**.

a.) **0.17 =** ☐/☐ **b.)** **8.9 =** ☐ ☐/☐ **c.)** **0.078 =** ☐/☐ **d.)** **8.67 =** ☐ ☐/☐

PART 1: *Numeracy Development*

1. *Make 1.00*
0.15 ⇨ _____
0.95 ⇨ _____
0.35 ⇨ _____

2. Double.
70 ⇨ _____
25 ⇨ _____
35 ⇨ _____

3. Add or Subtract

$$\begin{array}{r} 6.79 \\ +\ 7.3 \\ \hline \end{array} \qquad \begin{array}{r} 5.53 \\ -\ 4.8 \\ \hline \end{array}$$

4. Compare (< , >, =).
0.04 (<) 0.4
0.07 ◯ 0.05
0.80 ◯ 0.8

5. Divide.
4)84 (– –)
6)126 (– – –)

6. Complete the ***decimal*** **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 0.01:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 0.02:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

7. Complete the whole number expansion in **Base 10 Place Value Form.**

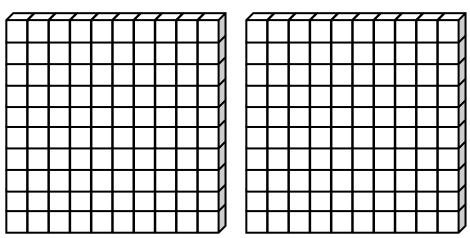
21,980 = ____

PART 2: *Application Practice*

8. *Write* and shade the **mixed number.**

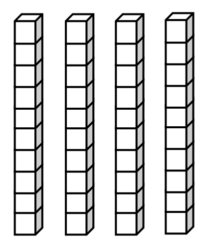
1 dollar and 8 pennies = 1.08

1.08 = ☐ $\frac{☐}{☐}$ ⇨



3 dollars and 6 dimes = 3.60 = 3.6

3.6 = ☐ $\frac{☐}{☐}$ ⇨



9. Isaac won 145 dollars. If he is paid 5 dollars each week, how many weeks will he receive money?

Ⓐ 28 weeks
Ⓑ 29 weeks
Ⓒ 140 weeks
Ⓓ 150 weeks

10. *Calculate* and *compare* (<, >, =) the two students' answers:

Jim = Double 20, Subtract 10, Multiply by 10 = ☐

Luz = (100 ÷ 5), Times 6, Subtract 20, Add 100 = ☐

_____ ◯ _____

PART 3: *Reflection and Conceptual Understanding*

Use SPACES (−−−) above each digit in the dividend. This method helps determine the maximum possible number of digits and including zeros in the quotient. *Write* the correct number for each division term.

A.) 6)126 with quotient ●21
Dividend = ***126***
Divisor = ***6***
Quotient = ***21***

B.) 5)525 with quotient 105
Dividend = ____
Divisor = ____
Quotient = ____

C.) 7)364 with quotient ●52
Dividend = ____
Divisor = ____
Quotient = ____

Fall Learning Opportunity 19
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Double.

80 ⇨ ____

45 ⇨ ____

50 ⇨ ____

2. Add or Subtract

$$\begin{array}{r} 1.4 \\ +\ 3.68 \\ \hline \end{array} \qquad \begin{array}{r} 5.4 \\ -\ 2.36 \\ \hline \end{array}$$

3. Compare (< , >, =).

0.84 ◯ **0.91** **0.72** ◯ **0.8**

0.01 ◯ **0.1** **0.81** ◯ **0.18**

0.30 ◯ **0.3** **0.9** ◯ **0.90**

4. Divide.

$5\overline{)275}$ $8\overline{)168}$

5. Complete the ***decimal*** **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 0.05:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 0.10:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

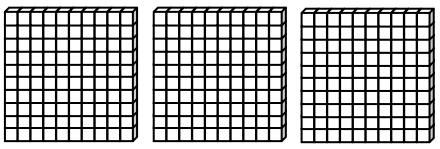
6. Complete the whole number expansion in **Base 10 Place Value Form.**

207,625 = _____

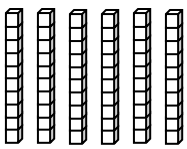
PART 2: *Application Practice*

7. *Write* and shade the **mixed number.**

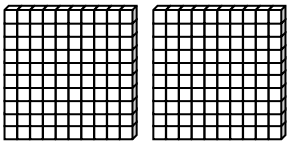
2.48 = □ ⇨



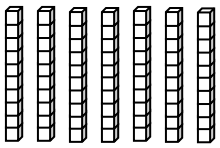
5.1 = □ ⇨



1.03 = □ ⇨



6.7 = □ ⇨



8. Diego placed 176 bricks in 8 equal stacks. How many bricks are placed in each stack?

Ⓐ 20 stacks Ⓒ 22 stacks

Ⓑ 21 stacks Ⓓ 23 stacks

9. *Calculate* and *compare* (<, >, =) the two students' answers:

Rob = (24 ÷ 6), Times 20, Double, Subtract 10 = ☐

Yaz = (100 x 5), Subtract 400, Divide by 10, Add 100 = ☐

____ ◯ ____

PART 3: *Reflection and Conceptual Understanding*

When we add or subtract decimals, ***why*** are numbers **lined-up** on their **decimal point**?

Line-up decimal points. →

$$\begin{array}{r} 15.67 \\ +\ 4.8 \\ \hline \end{array} \qquad \begin{array}{r} 15. \\ -\ 6.7 \\ \hline \end{array}$$

Fall Learning Opportunity **20**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add or Subtract.

4.1 + 5.38 = ☐

7.42 - 6.3 = ☐

2. Find Half.

10 ⇨ ***5***

18 ⇨ ____

20 ⇨ ____

3. Compare (< , >, =).

0.70 ◯ **0.9** **0.6** ◯ **0.52**

0.015 ◯ **0.14** **0.67** ◯ **0.7**

0.20 ◯ **0.1** **0.400** ◯ **0.4**

4. Divide.

$3\overline{)249}$ $4\overline{)448}$

5. Complete the ***decimal*** **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 0.05:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 0.10:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

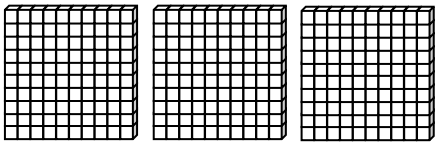
6. Complete the whole number expansion in **Base 10 Place Value Form.**

680,428 = _____

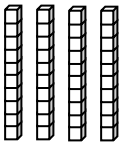
PART 2: *Application Practice*

7. *Write* and shade the **proper fraction** or **mixed number.**

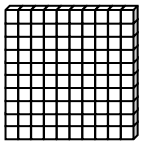
2.07 = ☐ ☐/☐ ⇨



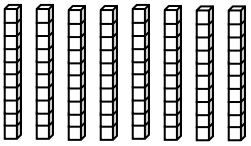
3.1 = ☐ ☐/☐ ⇨



0.51 = ☐/☐ ⇨



7.3 = ☐ ☐/☐ ⇨

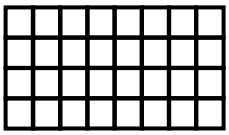


8. Sergio walked 12 miles each day for 8 days. He also walked 4 miles on the 9th day. What equation **M** calculates the total amount of miles he walked?

Ⓐ M = 8 + (4 x 12) Ⓒ M = (8 x 12) + 12

Ⓑ M = (4 x 12) + 4 Ⓓ M = (8 x 12) + 4

9. Calculate the **area (A)** of the rectangle below.



A = _____

10. Calculate the **perimeter (P)** of the rectangle shown in problem 9.

P = _____

PART 3: *Reflection and Conceptual Understanding*

Decimal points can seem confusing at first. But, decimal points are **always** present in any whole number. Decimal points are always located **directly behind** the whole number when **NOT** shown. **Correctly place** the *decimal point* for each whole number below.

a.) **4** ⇨ ***4.0*** **b.)** **15** ⇨ ☐ **c.)** **376** ⇨ ☐ **d.)** **7,053** ⇨ ☐

Fall Learning Opportunity 21
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add or Subtract.

7 + 2.382 = ☐

8 - 5.6 = ☐

2. Find Half.

16 ⇨ _____

20 ⇨ _____

30 ⇨ _____

3. Compare (< , >, =).

0.730 ◯ **0.8**

0.015 ◯ **0.123**

0.206 ◯ **0.14**

4. *Make 1,000* – Add up!

200 ➡	***800***	700 ➡	☐
500 ➡	☐	900 ➡	☐
750 ➡	☐	550 ➡	☐

5. Complete the whole number **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 11:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

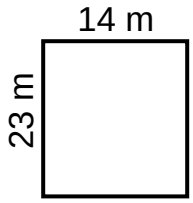
b.) *Multiples of 12:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

6. Write the whole number in **word form.**

3,428 = _____

PART 2: *Application Practice*

7. Find the **area** of the rectangle below.



Ⓐ 37 m^2

Ⓑ 74 m^2

Ⓒ 222 m^2

Ⓓ 322 m^2

8. If the dividend is 115 and the divisor is the 5, compute the quotient.

_____

9. Marisol left the house at the time shown on the clock on the top. She returned home at the clock on the bottom. How long was she away from home?

_____

10. Jack is 12 years old. Paula is three times older than Jack. Betty is 5 years older than Paula. Which equation **B** calculates Betty's correct age?

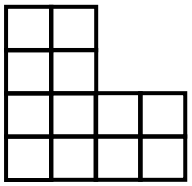
Ⓐ B = 5 - (3 x 12)

Ⓑ B = (3 x 12) + 5

Ⓒ B = (12 ÷ 3) - 5

Ⓓ B = (12 x 3) - 5

11. Calculate the **area (A)** of the rectangle below.



A = _____

12. Calculate the **perimeter (P)** of the rectangle shown in problem 9.

P = _____

PART 3: *Reflection and Conceptual Understanding*

Is it possible to *add* one or more zeros behind a decimal point and the original decimal remain equivalent? For example, can a zero be added to 0.7, and then, **0.7** still equal **0.70**? *Why or why not?*

HINT: Think of money – dimes and pennies.

Fall Learning Opportunity 22

"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add or Subtract.

4.89 + 8 = ☐

4 - 2.25 = ☐

2. Find Half.

60 ⇨ _____

70 ⇨ _____

80 ⇨ _____

3. Compare (< , >, =).

0.963 ◯ **0.954**

0.07 ◯ **0.081**

0.249 ◯ **0.3**

4. *Make 1,000* – Add up!

300 ➡ ☐ 600 ➡ ☐

150 ➡ ☐ 950 ➡ ☐

350 ➡ ☐ 850 ➡ ☐

5. Complete the whole number **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 11:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

b.) *Multiples of 12:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

6. Write the whole number in **word form.**

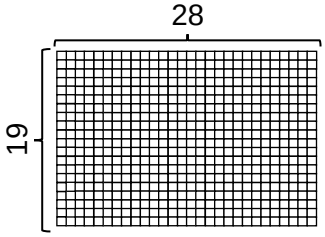
9,430 = _____

PART 2: *Application Practice*

7. Cal ran the 100-meter dash in 10.2 seconds. The 100-meter world record is 9.58 seconds. How much faster does Cal need to run to equal world record time?

_____

8. A grid has the following dimensions. What is its area?



☐

9. Liberty went to the store at the time shown on the clock. She came home 3 hours and 15 minutes later. What time did she arrive home?

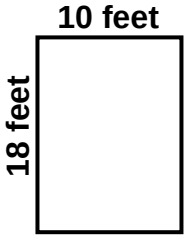
_____

10. Use the table to answer the questions below.

Building	Location	Height
Sears Tower	Chicago	1,729 feet
Empire State	New York City	1,454 feet

How much taller is the Sears Tower than the Empire State Building? _____ **ft.**

11. Calculate the **area (A)** and **perimeter (P)** of Yaz's garden.



A = _____

P = _____

12. Josh bought a car for $14,845. Sam purchased a new jeep for $24,507. What was the total amount of money both boys paid?

$ _____

PART 3: *Reflection and Conceptual Understanding*

Compare the following decimals using <, > or = in the circle.

0.7 ◯ **0.70** **0.70** ◯ **0.700** **0.700** ◯ **0.7000**

Can any number of zeros (0's) be added behind a decimal and **not** change its value? **Yes** **No**

Fall Learning Opportunity 23
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Add or Subtract.

5.7 + 2.035 = ☐

7.1 - 5.67 = ☐

2. Find Half.

100 ⇨ _____

80 ⇨ _____

90 ⇨ _____

3. Find **proper fraction** equivalencies.

0.805 = ***805 / 1,000***

0.7 = _____

0.04 = _____

0.219 = _____

4. *Make 1,000*

100 ➡ ☐

250 ➡ ☐

50 ➡ ☐

5. Complete the whole number **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 12:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

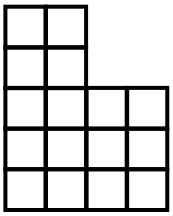
b.) *Multiples of 15:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

6. Write the whole number in **word form.**

31,045 = _____

PART 2: *Application Practice*

7. Which equation **T** correctly calculates the **area** of the figure.



Ⓐ T = (4 x 3) – (2 x 1)

Ⓑ T = (4 x 3) + (2 x 2)

Ⓒ T = (4 x 3) + (2 x 3)

Ⓓ T = (4 x 3) – (2 x 3)

8. Lori owns 206 yo-yo's. She sold each yo-yo for $4. How much money did she make?

$ _____

9. Jasper got home at the time shown on the clock. He was gone for 1 hour and 30 minutes. What time did he *leave* his house?

_____

10. Use the table to answer the questions.

City	State	Population
Santa Monica	California	91,857
Pensacola	Florida	52,689
Palm Springs	California	49,133
Trenton	New Jersey	84,913

a.) How many more people live in Trenton than Pensacola? ☐

b.) How many people live in the two California cities? ☐

c.) Order the cities' populations from *least to greatest*.

< **<** **<**

_____

PART 3: *Reflection and Conceptual Understanding*

Is the following mathematical equality a **true** statement?

0.2 = 0.20 = 0.200 = 0.2000 = 0.20000

Yes **No**

Can any number of zeros (0's) be added behind a decimal and **not** change its value? **Yes** **No**

Fall Learning Opportunity **24**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. *Make 1,000*

450 ➡ ☐

150 ➡ ☐

750 ➡ ☐

2. Find **proper fraction** equivalencies.

0.95 = _____ 0.6 = _____

0.046 = _____ 0.200 = _____

3. Find the missing number.

2 x 2 x ____ = 12 19 – ____ = 10

4 + ____ + 1 = 10 ____ – 3 = 8

17 – ____ = 8 5 x ____ x 2 = 30

4. Complete the whole number **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 15:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

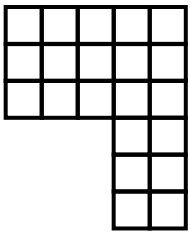
b.) *Multiples of 25:* ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___ , ___

5. Write the whole number in **word form.**

439,743 = _____

PART 2: *Application Practice*

6. Which equation **R** correctly calculates the **area** of the figure.



Ⓐ R = (5 x 3) – (2 x 2)

Ⓑ R = (5 x 3) + (1 x 2)

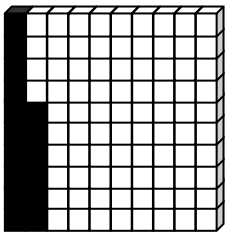
Ⓒ R = (5 x 3) + (2 x 3)

Ⓓ R = (5 x 3) – (2 x 3)

7. Jay paid his TV bill of 50 dollars each month for 36 months. How much total money has Jay paid?

☐

8. Write the **proper fraction** and the **decimal.**



_____ **proper fraction**

_____ **decimal**

9. Use the table to answer the questions.

Animal	Mass (kg)
Dog	18.6
Cat	6.94
Hamster	0.756

a.) How much more mass does the dog have than the cat? ☐

b.) How much mass do the cat and hamster have combined? ☐

10. Sergio's age is double the age of Jim. Jim is 5 years younger than Bill. If Bill is 15 years old, how old is Sergio?

Sergio's Age = ____

PART 3: *Reflection and Conceptual Understanding*

The *approximate* value of a decimal is easy if the digits AFTER the decimal point are viewed as money. Write **about** how much money (cents - ¢) each decimal number represents.

0.264 ➡ ***26¢*** 0.673 ➡ ____¢ 0.053 ➡ ____¢ 0.152 ➡ ____¢

0.2 ➡ ____¢ 0.84 ➡ ____¢ 0.0241 ➡ ____¢ 0.7 ➡ ____¢

Fall Learning Opportunity 25
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Divide.

$30\overline{)180}$

2. Find **proper fraction** equivalencies.

0.025 = _____ 0.4 = _____

0.108 = _____ 0.83 = _____

3. Find the missing number.

____ x 2 x 5 = 60 20 – ____ = 10

7 + ____ + 8 = 20 ____ – 2 = 9

18 – ____ = 9 6 x ____ x 1 = 30

4. Complete the whole number **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 15:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 25:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

5. Write the whole number in **word form.**

807,943 = _____

PART 2: *Application Practice*

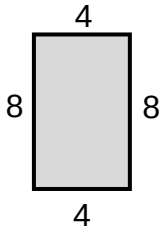
6. Which equation **P** correctly calculates the **perimeter**.

Ⓐ P = 2 x (4 + 4)

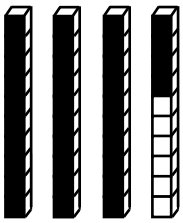
Ⓑ P = 2 x (8 + 8)

Ⓒ P = 2 x (7 + 7)

Ⓓ P = 2 x (4 + 8)



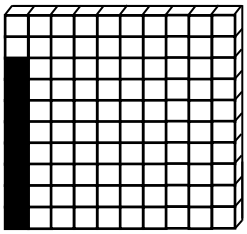
7. Write the **mixed number** and the **decimal** - shaded.



_____ **mixed number**

_____ **decimal**

8. Write the **proper fraction** and the **decimal** - shaded.



_____ **proper fraction**

_____ **decimal**

9. Use the table to answer the questions.

Object	Height (m)
Light Pole	6.25
Radar Antenna	?
Flagpole	14.1

a.) What is the height of the radar antenna if its height is 7.95 meters higher than the flagpole? ☐

b.) What is the difference in height between the light pole and flagpole? ☐

10. A division's problem dividend is equal to 180 and its divisor is 15. Find the quotient.

quotient = ____

PART 3: *Reflection and Conceptual Understanding*

The *approximate* value of a decimal is easy if the digits AFTER the decimal point are viewed as money. Write **about** how much money (cents - ¢) each decimal number represents.

0.032 ⇨ ____¢ 0.011 ⇨ ____¢ 0.094 ⇨ ____¢ 0.22 ⇨ ____¢

0.9 ⇨ ____¢ 0.9013 ⇨ ____¢ 0.8807 ⇨ ____¢ 0.4 ⇨ ____¢

Fall Learning Opportunity **26**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Divide.

$45\overline{)405}$ $20\overline{)260}$

2. Find the **proper fraction.**

0.005 = _____ 0.13 = _____

0.08 = _____ 0.8 = _____

3. Find the missing number.

____ x 6 x 5 = 90 50 – ____ = 20

____ + 5 + 10 = 25 ____ – 7 = 1

15 – ____ = 9 6 x ____ x 2 = 36

4. Complete the whole number **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 15:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 25:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

5. Write the whole number in **word form.**

1,302,061 = _____

PART 2: *Application Practice*

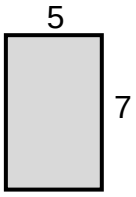
6. Which equation **P** correctly calculates the **perimeter**.

Ⓐ P = 2 x (7 + 7)

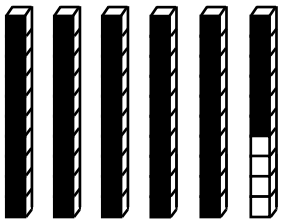
Ⓑ P = 5 x (5 + 7)

Ⓒ P = 2 x (5 + 7)

Ⓓ P = 7 x (2 + 5)



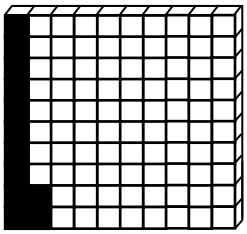
7. Write the **mixed number** and the **decimal** - shaded**.**



_____ **mixed number**

_____ **decimal**

8. Write the **proper fraction** and the **decimal** - shaded**.**



_____ **proper fraction**

_____ **decimal**

9. Jack saved 180 dollars by depositing money at his bank. If he saved an equal amount each month for 5 months, how much money did he deposit each month?

$ _____

10. Yessica can run the 100 meter dash in 10.8 seconds. Ana's fastest time in the 100 meters is 11.04 seconds. How many seconds faster is Yessica's 100 meter time than Ana's? _____

11. If the divisor is 32 and the dividend is equal to 384, compute the quotient.

quotient = ____

PART 3: *Reflection and Conceptual Understanding*

The *approximate* value of a decimal is easy if the digits AFTER the decimal point are viewed as money. Write **about** how much money (cents - ¢) each decimal number represents.

0.074 ⇨ ____ ¢ 0.08 ⇨ ____ ¢ 0.054 ⇨ ____ ¢ 0.28 ⇨ ____ ¢

0.7 ⇨ ____ ¢ 0.7223 ⇨ ____ ¢ 0.5991 ⇨ ____ ¢ 0.8 ⇨ ____ ¢

PART 1: *Numeracy Development*

1. Divide.

$61\overline{)854}$ $17\overline{)391}$

2. Find the **proper fraction.**

0.503 = _____

0.48 = _____

3. Find the missing number.

____ x 3 x 5 = 45 ____ – 8 = 9

50 – ____ = 25 ____ + 12 = 30

9 x ____ x 1 = 36 19 – ____ = 5

4. Compute.

9 – 4.5 = ____

3 + 6.21 = ____

5. Complete the whole number **multiple strings** below. *Multiple strings always begin with zero (0).*

a.) *Multiples of 12:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

b.) *Multiples of 15:* ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

6. Write the whole number in **word form.**

7,046,605 = _____

PART 2: *Application Practice*

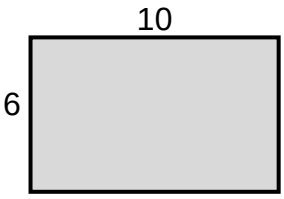
7. Jasmine's garden is shown below. What equation is the correct perimeter of her garden?

Ⓐ P = 6 x (2 + 10)

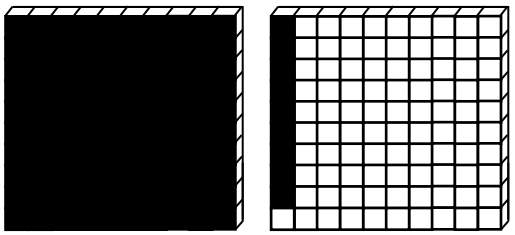
Ⓑ P = 2 x (6 + 10)

Ⓒ P = 10 x (2 + 10)

Ⓓ P = 2 + (6 x 10)



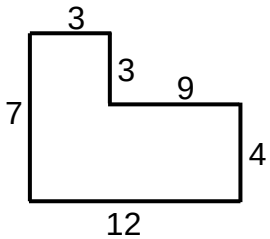
8. Write the **mixed number** and **decimal.**



_____ **mixed number**

_____ **decimal**

9. What is the area of the hexagon below?



Ⓐ A = 57

Ⓑ A = 69

Ⓒ A = 38

Ⓓ A = 45

10. Use the table to find the mass of the mouse and cat.

Animal	Mass (kg)
squirrel	13.2
mouse	?
cat	?

a.) The cat's mass is 4.62 kg more than the squirrel's. _____ **kg.**

b.) The mouse is 9.87 kg. less than the squirrel's. _____ **kg.**

PART 3: *Reflection and Conceptual Understanding*

The *approximate* value of a decimal is easy if the digits AFTER the decimal point are viewed as money. Write **about** how much money (cents - ¢) each decimal number represents.

0.076 ⇨ ____ ¢ 0.03 ⇨ ____ ¢ 0.096 ⇨ ____ ¢ 0.56 ⇨ ____ ¢

0.706 ⇨ ____ ¢ 0.4913 ⇨ ____ ¢ 0.2222 ⇨ ____ ¢ 0.1 ⇨ ____ ¢

Fall Learning Opportunity 28
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Divide.

61)1,586

2. Compute.

3 x (5 – 2) = ___ 8 x (8 ÷ 2) = ___

(6 x 5) – 3 = ___ (6 x 5) ÷ 3 = ___

(3 + 7) x 9 = ___ (3 x 7) – 1 = ___

3. Make 1 **Add Up.**

0.4 + ____ = 1.0

0.85 + ____ = 1.0

____ + 0.3 = 1.0

4. Compute.

9 – 3.4 = ____

3.5 + 6.21 = ____

5. Round each decimal to the **nearest tenth**.

0.46 → ***0.5*** 0.85 → ____ 0.86 → ____

0.08 → ____ 0.37 → ____ 0.84 → ____

6. Expand each in ***decimal form***.

3.14 = ***3 + 0.1 + 0.04***

2.38 = _____

7. Write the whole number in **word form.**

27,005,940 = _____

PART 2: *Application Practice*

8. *Write* the correct name of each number.

WORD BANK
factor, dividend, product, divisor, quotient

26 ⇨ _____

x **8** ⇨ _____

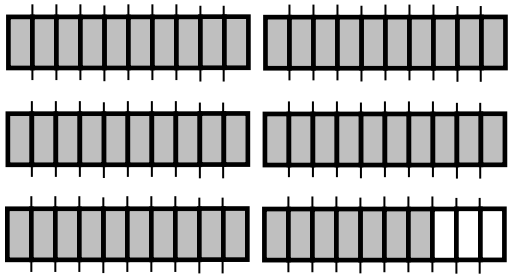
208 ⇨ _____

35 ⇨ _____

15) **525** ⇨ _____

_____

9. Write the **mixed number** and **decimal.**



_____ **mixed number**

_____ **decimal**

10. Jim's dad made a large garden in the back yard. The rectangular garden's length was 36 meters and its width was 22 meters. What is the garden's area (A)?

Ⓐ A = 58

Ⓑ A = 792

Ⓒ A = 116

Ⓓ A = 14

11. Phillip placed 32 ears of corn *equally* in boxes. After he finished, he told his mother he had packed a total of 768 ears of corn in all the boxes. How many boxes did Phillip use? ☐

12. Compare (< . > , =) on the line below.

0.089 0.7

0.603

_____

PART 3: *Reflection and Conceptual Understanding*

Write the **whole number** that each decimal is closest. For example, 6.324 is closer to 6 than it is to 7.
Hint: *Think money (i.e. 6.324 is about $6.32).*

8.732 ⇨ ***9*** 4.13 ⇨ ____ 1.096 ⇨ ____ 4.56 ⇨ ____

0.70 ⇨ ____ 7.4213 ⇨ ____ 6.2222 ⇨ ____ 7.1 ⇨ ____

Fall Learning Opportunity **29**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Divide.

$61\overline{)3{,}721}$

2. Compute.

3 + (5 x 2) = ___ (4 x 1) + (6 ÷ 3) = ___

(4 x 6) ÷ 3 = ___ (100 - 50) ÷ 5 = ___

(9 - 4) x 9 = ___ (9 x 7) – 3 = ___

3. Make 1 **Add Up.**

0.45 + ____ = 1.0

0.85 + ____ = 1.0

____ + 0.65 = 1.0

4. Compute.

8 – 1.45 = ____

2.7 + 5.37 = ____

5. Round each decimal to the **nearest tenth**.

0.06 → ____ 0.95 → ____ 0.94 → ____

0.02 → ____ 0.34 → ____ 0.67 → ____

6. Expand each in ***decimal form***.

5.29 = ***5 + 0.2 + 0.09***

2.4 = _____

7. Expand each in ***fraction form***.

5.29 = ***5 + $^{2}/_{10}$ + $^{9}/_{100}$*** 2.4 = _____

PART 2: *Application Practice*

8. *Write* the correct name of each number.

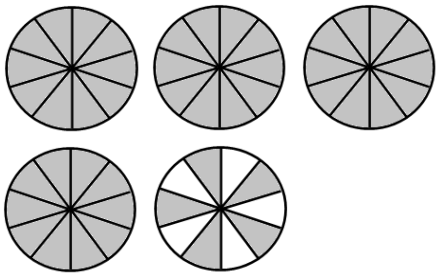
WORD BANK
dividend, product, quotient, divisor, factor

34 ⇨ _____ **41** ⇨ _____

x **28** ⇨ _____ **23**) **943** ⇨ _____

952 ⇨ _____ _____

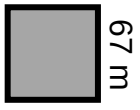
9. Write the **mixed number** and **decimal.**



_____ **mixed number**

_____ **decimal**

10. Bill measured the sides of his company's square parking lot. Each side is 67 meters in length. Compute the perimeter (T) of the square parking lot?



Ⓐ T = 124

Ⓑ T = 268

Ⓒ T = 134

Ⓓ T = 67

11. Alexis's hometown population had 45,092 people. 62,086 people lived in Sergio's hometown. What is the difference in population between the two towns?

12. Compare (< . > , =) on the line below.

0.60 0.059

0.6

_____

PART 3: *Reflection and Conceptual Understanding*

Write the **whole number** that each decimal is closest. For example, 2.524 is closer to 3 than it is to 2.
Hint: *Think money (i.e. 2.524 is about $2.52).*

7.356 ⇨ ***7*** 14.14 ⇨ ____ 1.028 ⇨ ____ 7.59 ⇨ ____

0.650 ⇨ ____ 8.6531 ⇨ ____ 9.6666 ⇨ ____ 8.2 ⇨ ____

Fall Learning Opportunity **30**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Divide.

$5\overline{)4{,}940}$

2. Compute.

(9 x 5) ÷ (3 x 3) = ___

(25 + 25) ÷ 10 = ___

(9 - 4) x (0 + 2) = ___

3. Make 1 **Add Up** to next tenth, then to 1.0

0.85 + ____ = 1.0 ____ + 0.92 = 1.0

____ + 0.95 = 1.0 0.91 + ____ = 1.0

0.90 + ____ = 1.0 ____ + 0.89 = 1.0

4. Multiply.

$$\begin{array}{r} 37 \\ \times\ 58 \\ \hline \end{array}$$

5. Round each decimal to the **nearest tenth**.

0.76 → _____ 0.07 → _____ 0.944 → _____ 0.304 → _____ 0.672 → _____

6. Expand each both **decimal form** and ***fraction form***.

7.125 = ***7 + 0.1 + 0.02 + 0.005*** 3.254 = _____

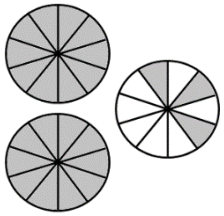
7.125 = ***7 + $^{1}/_{10}$ + $^{2}/_{100}$ + $^{5}/_{1,000}$*** 3.254 = _____

PART 2: *Application Practice*

7. Whole number **estimation**. *Round first*, then add, subtract or multiply.

$$\begin{array}{rcl} 34 & \Rightarrow & 30 \\ +\ 75 & \Rightarrow & +\ 80 \\ \hline & & 110 \end{array} \qquad \begin{array}{rcl} 85 & \Rightarrow & \\ -\ 42 & \Rightarrow & -\ \_\_ \end{array} \qquad \begin{array}{rcl} 38 & \Rightarrow & \\ \times\ 22 & \Rightarrow & \times\ \_\_ \end{array}$$

8. Determine the mixed number and decimal.



_____ **mixed number**

_____ **decimal**

9. Jef installed lawn sprinkler spouts in an array on a large yard. His sprinkler spout array had 37 rows and 46 columns. *About* how many sprinkler spouts are in the Jef's lawn array?

Ⓐ 80 Ⓒ 1,500

Ⓑ 1,600 Ⓓ 2,000

10. Luz counted the tickets to the Friday night school dance. She tallied 98 girls in attendance, but only 65 boys. *Estimate* the difference between the number of boys and girls.

Ⓐ 40 Ⓒ 170

Ⓑ 30 Ⓓ 160

11. Adrian's pencil has a mass of 24.2 grams. Jo's designer pen has a mass of 38.54 grams. What is the combined mass of the pen and the pencil?

_____ grams

PART 3: *Reflection and Conceptual Understanding*

Write the **whole number** that each decimal is closest. For example, 12.084 is closer to 12 than it is to 13.

Hint: *Think money (i.e. 12.084 is about $12.08).*

9.178 ⇨ _____ 24.582 ⇨ _____ 6.034 ⇨ _____ 9.49 ⇨ _____

0.524 ⇨ _____ 4.0911 ⇨ _____ 6.504 ⇨ _____ 1.3 ⇨ _____

Fall Learning Opportunity **31**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Multiply.

$$\begin{array}{r} 49 \\ \times\ 78 \\ \hline \end{array}$$

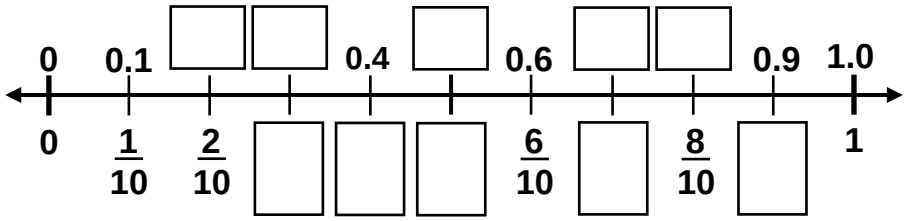
2. Make 1. **Add Up.**

0.8 + ____ = 1.0

____ + 0.79 = 1.0

0.81 + ____ = 1.0

3. Complete the number line with correct *decimals* and *fractions*.



4. **Round** each decimal to the **nearest hundredth**.

0.348 → ***0.35*** 0.073 → _____ 0.945 → _____ 0.307 → _____ 0.651 → _____

5. **Expand** each number in **decimal form** and ***fraction form***.

9.236 = _____ 13.045 = ***10 + 3 +*** _____

9.236 = _____ 13.045 = _____

PART 2: *Application Practice*

6. Whole number **estimation**: add, subtract or multiply.

+	⇨	+	-	⇨	-	x	⇨	x
58			94			67		
41	⇨	___	25	⇨	___	9	⇨	9

Do **NOT** round single digits in multiplication.

7. Use the rule to complete table.

y = ***x*** + 10

x	y
2	
4	14
6	

y = ***x*** - 5

x	y
5	
10	5
15	

8. Carla and her classmates read 25 chapter books each week. After 34 weeks, how many chapter books will the class read?

Ⓐ 59 Ⓒ 850

Ⓑ 9 Ⓓ 830

9. Zach placed coins in a rectangular array of equal rows and columns. He placed 276 coins in the array. If Zach had 23 columns of coins, how many rows of coins are in the array?

Ⓐ 12 Ⓒ 253

Ⓑ 299 Ⓓ 14

10. Complete the table below.

How many feet are in:	feet
24 inches	
36 inches	3
48 inches	

Note: 12 inches = 1 foot

PART 3: *Reflection and Conceptual Understanding*

Complete.

The decimal 2.15 is **between** what two whole numbers?

_____ and _____

The decimal 2.15 is _____ away from 2.

The decimal 3.7 is **between** what two whole numbers?

_____ and _____

The decimal 3.7 is _____away from 4.

Fall Learning Opportunity 32
"Layering a Sound Foundation"

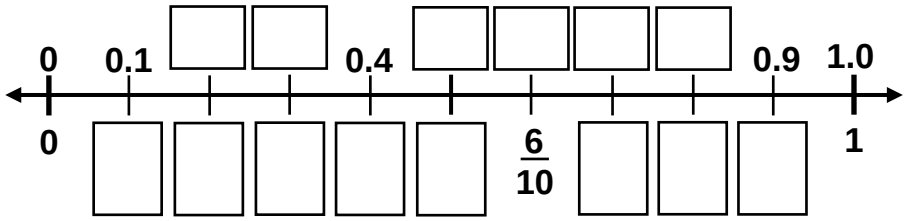
Name: _____

PART 1: *Numeracy Development*

1. Make 1.0 by **Adding Up.**

0.79 ⇨	***0.21***	0.6 ⇨	
0.93 ⇨		0.65 ⇨	
0.81 ⇨		0.57 ⇨	

2. Complete the number line with correct *decimals* and *fractions*.



3. **Round** each decimal to the **nearest hundredth**.

0.008 → _____ 0.063 → _____ 0.991 → _____ 0.307 → _____ 0.436 → _____

4. **Expand** each number in **decimal form** and ***fraction form***.

218.406 = _____ 90.111 = _____

218.406 = _____ 90.111 = _____

PART 2: *Application Practice*

5. Whole number **estimation**: add, subtract or multiply.

258 ⇨	894 ⇨	94 ⇨
+ 417 ⇨ + ___	- 550 ⇨ - ___	x 6 ⇨ x ___

Do **NOT** round single digits in multiplication.

6. Use the rule to complete table.

y = ***x*** + 15

x	y
10	
13	
16	

y = ***x*** - 7

x	y
8	
12	
16	

7. At Friday's game, there were 15 sections in the stadium and every seat was occupied. If there were 2,025 people at the game, how many people sat in each section?

Ⓐ 125 Ⓒ 145

Ⓑ 135 Ⓓ 155

8. On Saturday, a week ago, 652 people went to a church meeting. This Saturday, 987 people attended the meeting. About how many more people attended this Saturday's meeting?

Ⓐ 100 Ⓒ 300

Ⓑ 200 Ⓓ 1,700

9. Complete the table below.

How many feet are in:	feet
12 inches	
36 inches	
60 inches	

Note: 12 inches = 1 foot

PART 3: *Reflection and Conceptual Understanding*

Complete.

The decimal 7.92 is **between** what two whole numbers?

_____ and _____

The decimal 7.92 is _____ away from 8.

The decimal 13.46 is **between** what two whole numbers?

_____ and _____

The decimal 13.46 is _____ away from 13.

Fall Learning Opportunity 33
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

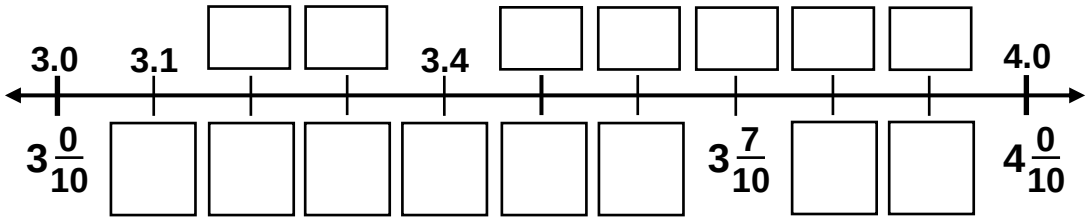
1. Make 1.0 **Add Up.**

0.89 ⇨ ☐

0.93 ⇨ ☐

0.86 ⇨ ☐

2. Complete the number line: ***decimals*** and ***mixed numbers***.



3. Round each decimal to the **nearest hundredth**.

0.008 → _____ 0.065 → _____ 0.964 → _____

4. Use the rule to complete table.

$y = x + 4$

x	y
16	
21	

$y = x - 7$

x	y
11	
17	

5. Expand each number in **decimal form** and ***fraction form***.

9,408.675 = _____

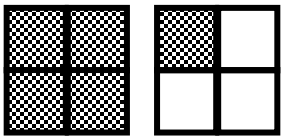
9,408.675 = _____

PART 2: *Application Practice*

6. Whole number **estimation**: add, subtract or multiply.

$$\begin{array}{r} 443 \Rightarrow \\ +\ 752 \Rightarrow \end{array} + \_\_\_ \qquad \begin{array}{r} 934 \Rightarrow \\ -\ 41 \Rightarrow \end{array} - \_\_\_ \qquad \begin{array}{r} 74 \Rightarrow \\ \times\ 42 \Rightarrow \end{array} \times \_\_\_$$

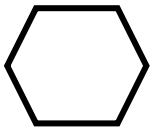
7. Write the **improper fraction** and **mixed number**.



_____ **mixed number**

_____ **Improper fraction**

8. The **regular hexagon** has sides equal to 7 cm. What is the *polygon's* **perimeter**?



Ⓐ 42 cm Ⓒ 11 cm

Ⓑ 35 cm Ⓓ 49 cm

9. Sally and Alex baked chocolate chip cookies. They placed 8 chocolate chips in each cookie. If they made 65 cookies, *about* how many chocolate chips did they use?

Ⓐ 73 Ⓒ 480

Ⓑ 57 Ⓓ 560

10. Complete the table below.

How many feet are in:	feet
2 yards	
5 yards	
9 yards	
10 yards	

Note: 1 yard = 3 feet

PART 3: *Reflection and Conceptual Understanding*

Complete.

The decimal 56.09 is **between** what two whole numbers?

_____ and _____

The decimal 56.09 is _____ away from 57.

The decimal 32.4 is **between** what two whole numbers?

_____ and _____

The decimal 32.4 is _____ away from 33.

Fall Learning Opportunity **34**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

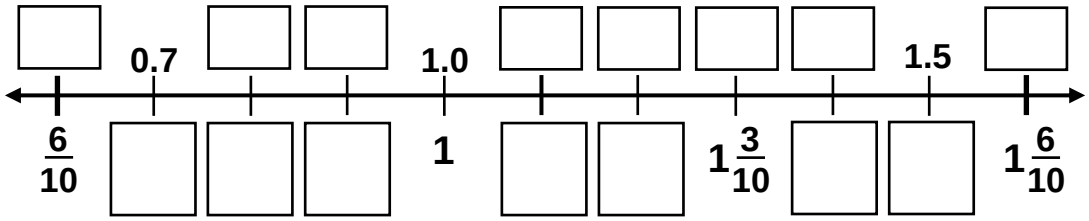
1. Make 1.0 **Add Up.**

0.75 ⇨ ☐

0.78 ⇨ ☐

0.69 ⇨ ☐

2. Complete the number line with correct decimals and fractions.



3. Complete the decimal pattern.

0.53	**0.63**	**0.73**		**0.93**			**1.23**	

4. Use the rule to complete table.

y = ***x*** - 20

x	y
43	
61	

y = ***x*** + 15

x	y
25	
35	

5. Expand each number in **decimal form** and ***fraction form***.

601.032 = _____

601.032 = _____

PART 2: *Application Practice*

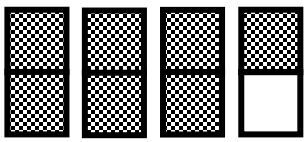
6. *Decimal* **estimation** to nearest *whole*: add, subtract or multiply.

\+ 2.4 ⇨ ***2*** / 3.69 ⇨ ***4*** / ***6***

\- 7.32 ⇨ ***7*** / 0.9 ⇨ ***1*** / ***6***

x 7.1 ⇨ ***7*** / 3.5 ⇨ ***4*** / ***28***

7. Write the **improper fraction** and **mixed number**.



_____ **mixed number**

_____ **Improper fraction**

8. Luis walked for 12.4 kilometers. The path he walked for 3 hours was 21.7 kilometers in length. What is the distance that he has left, and how do you know your answer is reasonable?

Ⓐ 34.1 kilometers; I can estimate 22 + 12 = 34. Close to 34.1

Ⓑ 21.7 kilometers; I can estimate 22 – 1 = 21. Close to 21.7

Ⓒ 9.3 kilometers; I can estimate 22 – 12 = 10. Close to 9.3

Ⓓ 269.08 kilometers. I can estimate 12 x 22 = 252. Close to 269

9. Complete the table below.

How many feet are in:	feet
7 yards	
3 yards	
2 yards	
12 yards	

Note: 1 yard = 3 feet

PART 3: *Reflection and Conceptual Understanding*

A.) Complete.

The decimal 25.34 is **between** what two whole numbers?

_____ and _____

The decimal 25.34 is _____ away from 25.

B.) Write the **whole number** that each decimal is closest.

6.531 ⇨ _____ 19.75 ⇨ _____

0.787 ⇨ _____ 7.5003 ⇨ _____

Fall Learning Opportunity 35
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

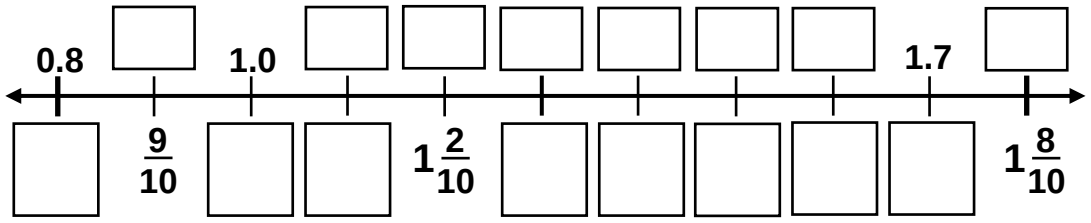
1. Make 1.0

0.64 ⇨ ☐

0.4 ⇨ ☐

0.57 ⇨ ☐

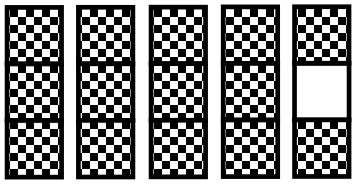
2. Complete the number line: ***decimals***, ***proper fractions*** and ***mixed numbers***.



3. Complete the decimal pattern.

0.87	**0.77**	**0.67**			**0.37**		**0.17**	

4. Write the **improper fraction** and **mixed number**.



_____ **mixed number**

_____ **Improper fraction**

5. Write each decimal in word form. *(Use '**and**' for the decimal point.)*

3.4 = *three **and** four tenths*

0.67 = _____

PART 2: *Application Practice*

6. *Decimal* **estimation** to nearest *whole*: add, subtract or multiply.

4.51 ⇨	3.17 ⇨	6.81 ⇨
+ 5.09 ⇨ ___	- 1.8 ⇨ ___	x 2.1 ⇨ ___

7. Miguel ran 15 kilometers each day. *Each* day after his run, he drank 1.85 liters (L) of water. *Estimate* the amount of water Miguel drank for 5 days.

Ⓐ 12 L Ⓒ 10 L

Ⓑ 7 L Ⓓ 6 L

8. Jon threw a shotput 7.2 meters. Billy heaved the shotput 8.9 meters. Compute the combined distance they threw the shotput, and how do you know your answer is reasonable?

Ⓐ 16.1 meters; I can estimate 7 + 9 = 16. Close to 16.1

Ⓑ 1.7 meters; I can estimate 9 – 7 = 2. Close to 1.7

Ⓒ 20.9 meters; I can estimate 30 – 10 = 20. Close to 20.9

Ⓓ 64.08 meters. I can estimate 7 x 9 = 63. Close to 64.08

9. Complete the table below.

How many inches in:	**inches**
2 feet	
3 feet	
½ foot	
5 feet	

Note: 1 foot = 12 inches

PART 3: *Reflection and Conceptual Understanding*

List a **Factor String** in an organized way by using the *'compression method'* – in which factor strings start from the outsides and proceed inward. Find the ***factor string*** of **20** by filling in the boxes.

20: { 1 , 2 , ☐ , ☐ , 20 } ⇨ **20:** { 1 , 2 , ☐ , ☐ , 10 , 20 } ⇨ **20:** { 1 , 2 , 4 , 5 , 10 , 20 }

Fall Learning Opportunity **36**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

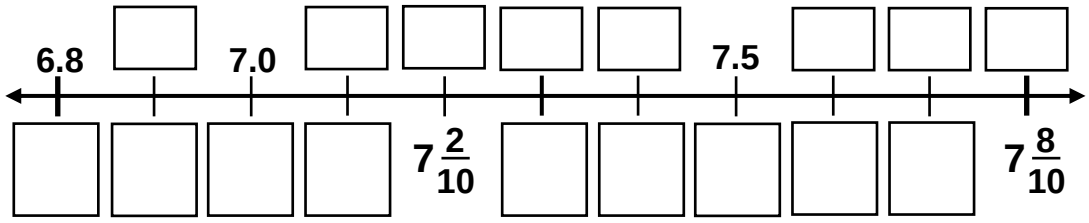
1. Make 1.0

0.1 ⇨ ☐

0.01 ⇨ ☐

0.05 ⇨ ☐

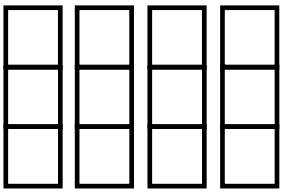
2. Complete the number line: ***decimals*** and ***mixed numbers***.



3. Complete the decimal pattern.

0.03	**0.05**		**0.09**			**0.15**		

4. *Shade* $^{10}/_{3}$ **(improper fraction)**
Write the **mixed number**.
Complete the equality.



_____
mixed number

$\frac{10}{3}$ = ☐

5. Write each decimal in word form. *(Use '**and**' for the decimal point.)*

6.2 = _____

1.35 = _____

PART 2: *Application Practice*

6. *Decimal* **estimation** to nearest *whole*: add, subtract or multiply.

17.09 ⇨	27.42 ⇨	9.51 ⇨
+ 22.90 ⇨ + ___	- 12.88 ⇨ - ___	x 2.6 ⇨ x ___

7. Dharma and Grace collect buttons. They have a large collection, so they grouped them. They have 45 groups with 67 buttons in each group. How many total buttons do they have?

Ⓐ 112 Ⓒ 3,685

Ⓑ 3,015 Ⓓ 3,285

8. Liberty drove 39.7 miles. She still has 90.41 miles to travel until she gets home. Calculate the distance she will drive to get home, and how do you know your answer is reasonable?

Ⓐ 50.71 meters; I can estimate 90 – 40 = 50.

Ⓑ 130.11 meters; I can estimate 40 + 90 = 130.

Ⓒ 180.82 meters; I can estimate 90 + 90 = 180.

Ⓓ 3,589.3 meters. I can estimate 40 x 90 = 3600.

9. Complete the table below.

How many inches in:	**inches**
3 feet	
5 feet	
½ foot	
4 feet	

Note: 1 foot = 12 inches

PART 3: *Reflection and Conceptual Understanding*

List a **Factor String** in an organized way by using the *'compression method'* – in which factor strings start from the outsides and proceed inward. Find the ***factor string*** of **12** by filling in the boxes.

12: { 1 , 2 , ☐ , ☐ , ☐ , ☐ } ⇨ **12:** { 1 , 2 , ☐ , ☐ , 6 , 12 } ⇨ **12:** { 1 , 2 , 3 , 4 , 6 , 12 }

Fall Learning Opportunity **37**
"Layering a Sound Foundation"

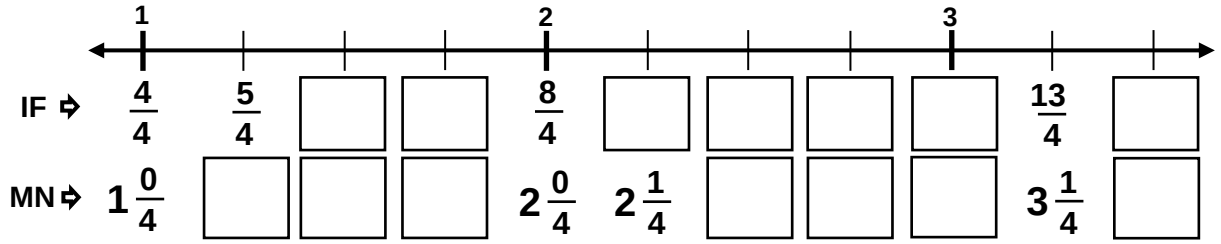
Name: _____

PART 1: *Numeracy Development*

1. Multiply.

$$\begin{array}{r} 125 \\ \times\ 31 \\ \hline \end{array}$$

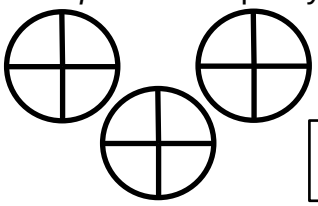
2. Complete the number line: ***mixed numbers*** (**MN**) and **improper fractions** (**IF**).



3. Complete the decimal pattern.

0.27		**0.21**	**0.18**			**0.09**		

4. *Shade* $^{10}/_{4}$ **(improper fraction)**
Write the **mixed number**.
Complete the equality.



_____ mixed number

☐ = $\frac{10}{4}$

5. Write each decimal in word form. *(Use '**and**' for the decimal point.)*

6.210 = _____

7.05 = _____

PART 2: *Application Practice*

6. *Decimal* **estimation** to nearest ***TEN***: add OR subtract.

57.04 ⇨ ***60***	65.42 ⇨ ___	88.3 ⇨ ___
\+ 32.50 ⇨ ___	− 11.2 ⇨ ___	− 26.98 ⇨ ___

7. One thousand eighty children attended the soccer jamboree. The coaches separated the boys and girls into equal teams of 15. How many children were on each team?

Ⓐ 71 Ⓒ 70

Ⓑ 72 Ⓓ 73

8. Jasper is 4 feet 2 inches tall. What equation shows Jasper's height (H) in inches?

Ⓐ H = (2 x 12) - 4

Ⓑ H = (2 x 4) + 12

Ⓒ H = (4 x 12) x 4

Ⓓ H = (4 x 12) + 2

9. Caleb's teacher wrote 3.56 on the document camera. She asked her class, "*Which of the answers below correctly rounds to 3.56 when rounded to the hundredths place?*"

Ⓐ 3.565 Ⓒ 3.555

Ⓑ 3.459 Ⓓ 3.554

10. Complete the table below.

How many feet in:	feet
1 mile	
½ mile	
2 miles	
3 miles	

Note: 1 mile = 5,280 feet

PART 3: *Reflection and Conceptual Understanding*

List a **Factor String** in an organized way by using the *'compression method'* – in which factor strings start from the outsides and proceed inward. Find the ***factor string*** of **16** by filling in the boxes.

16: { 1 , ☐ , ___ , ☐ , ☐ } ⇨ **16:** { 1 , 2 , ☐ , 8 , 16 } ⇨ **16:** { 1 , 2 , 4 , 8 , 16 }

Fall Learning Opportunity **38**
"Layering a Sound Foundation"

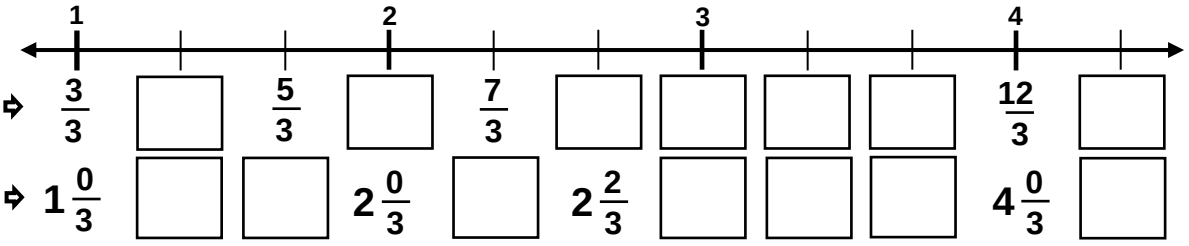
Name: _____

PART 1: *Numeracy Development*

1. Multiply.

$$\begin{array}{r} 206 \\ \times\ 43 \\ \hline \end{array}$$

2. Complete the number line: ***mixed numbers*** (**MN**) and **improper fractions** (**IF**).

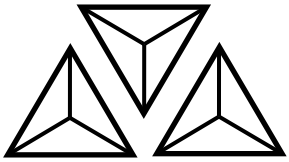


3. Factor Strings: List each number's factors.

1: { } **3:** { , } **5:** { , } **7:** { , }

2: { , } **4:** { , , } **6:** { , , , } **8:** { , , , }

4. *Shade* $^{8}/_{3}$ **(improper fraction)**
Write the **mixed number**.
Complete the equality.



mixed number

$\frac{8}{3} = \square$

5. Write each decimal in word form. *(Use '**and**' for the decimal point.)*

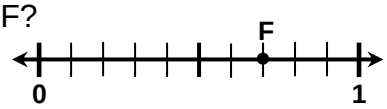
13.049 = _____

PART 2: *Application Practice*

6. **Estimate** to nearest ***TEN***: add, subtract or multiply.

36.74 ⇨	78.91 ⇨	65.3 ⇨
\+	\-	x
61.3 ⇨ + ___	16.7 ⇨ - ___	21.44 ⇨ x ___

7. On the number line below, what is the correct equality of the *decimal* and *proper fraction* at Point F?



Ⓐ $^{1}/_{7} = 0.7$ Ⓒ $^{7}/_{10} = 0.7$

Ⓑ $^{1}/_{6} = 0.6$ Ⓓ $^{6}/_{10} = 0.6$

8. Dan walked a mile and a half. What equation shows Dan's distance (D) in feet?

Ⓐ D = 1 + (5,280 ÷ 2)

Ⓑ D = 5,280 + (5,280 x 2)

Ⓒ D = 5,280 + (5,280 ÷ 2)

Ⓓ D = 5,280 + (5,280 + 2)

9. Sara and Joe baked 133 cupcakes on Monday and 155 cupcakes on Tuesday. The cupcakes were packaged in boxes of 12. How many boxes were filled with cupcakes?

Ⓐ 636 Ⓒ 24

Ⓑ 194 Ⓓ 53

10. Complete the table below.

How many feet in:	feet
1 mile	
½ mile	
¼ mile**	
1 ½ mile	

** Divide by 4 Note: 1 mile = 5,280 feet

PART 3: *Reflection and Conceptual Understanding*

Circle the **proper fractions**. *Underline* the **improper fractions**. *Box* the **mixed numbers**.

$2\frac{4}{5}$ $\frac{8}{5}$ $1\frac{1}{3}$ $\frac{1}{10}$ $4\frac{4}{7}$ $\frac{7}{3}$ $5\frac{0}{8}$ $\frac{9}{2}$

$\frac{6}{6}$ $\frac{1}{3}$ $9\frac{3}{4}$ $\frac{4}{5}$ $10\frac{1}{8}$ $\frac{8}{8}$ $\frac{2}{5}$ $\frac{3}{1}$ $\frac{6}{8}$

Fall Learning Opportunity **39**
"Layering a Sound Foundation"

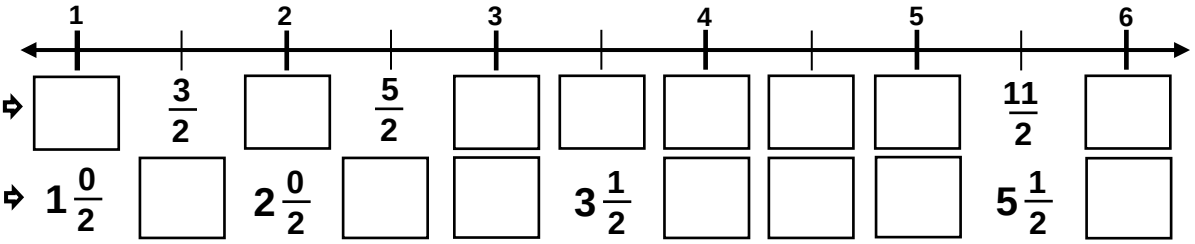
Name: _____

PART 1: *Numeracy Development*

1. Multiply.

$$\begin{array}{r} 719 \\ \times\ 65 \\ \hline \end{array}$$

2. Complete the number line: ***mixed numbers*** (**MN**) and **improper fractions** (**IF**).

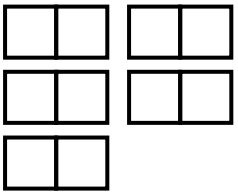


3. Factor Strings: List each number's factors.

1: { } **3:** { , } **5:** { , } **7:** { , }

2: { , } **4:** { , , } **6:** { , , , } **8:** { , , , }

4. *Shade* **$^{9}/_{2}$ (improper fraction)** *Write* the **mixed number**. *Complete* the equality.



_____
mixed number

☐ = **$\frac{9}{2}$**

5. Write each decimal in word form. *(Use '**and**' for the decimal point.)*

21.40 = _____

PART 2: *Application Practice*

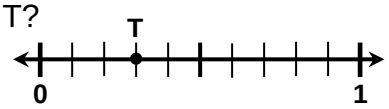
6. *Complete*. Select the answer describing the decimal pattern.

0.94	0.98	1.02	1.06			1.18		

Ⓐ The decimals are increasing by $^{4}/_{100}$ toward the right.

Ⓑ The decimals are increasing by $^{4}/_{10}$ toward the right.

7. On the number line below, what is the correct equality of the *decimal* and *proper fraction* at Point T?



Ⓐ $^{1}/_{3}$ = 0.3 Ⓒ $^{4}/_{10}$ = 0.4

Ⓑ $^{3}/_{10}$ = 0.3 Ⓓ $^{2}/_{10}$ = 0.2

8. Chloe has 23 boxes of toys. If there are 145 toys in each box, what equation (**t**) shows the total number of toys?

Ⓐ **t** = 23 + 145

Ⓑ **t** = 145 – 23

Ⓒ **t** = 145 ÷ 23

Ⓓ **t** = 145 x 23

9. Dylan works at the GAP clothing store. He placed 156 shirts in 12 equal stacks on a shelf so customers can purchase them. How many shirts are in the fourth stack? (Think!)

Ⓐ 12 jeans Ⓒ 142 jeans

Ⓑ 13 jeans Ⓓ 1,872 jeans

10. Complete the table below.

How many pounds in:	lbs.
16 ounces	
48 ounces	
32 ounces	
80 ounces	

Note: 16 dry ounces = 1 pound (lb.)

PART 3: *Reflection and Conceptual Understanding*

Circle the **proper fractions**. *Underline* the **improper fractions**. *Box* the **mixed numbers**.

$\frac{1}{9}$ $7\frac{3}{5}$ $\frac{5}{10}$ $\frac{5}{5}$ $37\frac{8}{10}$ $\frac{9}{1}$ $4\frac{0}{5}$ $\frac{1}{2}$

$\frac{2}{2}$ $\frac{6}{9}$ $14\frac{1}{4}$ $\frac{3}{6}$ $26\frac{5}{8}$ $\frac{7}{2}$ $\frac{2}{6}$ $\frac{8}{9}$ $\frac{4}{1}$

Fall Learning Opportunity 40
"Layering a Sound Foundation"

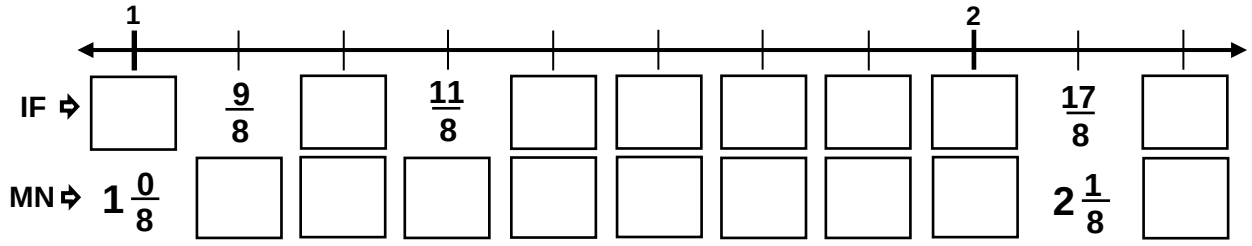
Name: _____

PART 1: *Numeracy Development*

1. Multiply.

$$\begin{array}{r} 417 \\ \times\ 61 \\ \hline \end{array}$$

2. Complete the number line: ***mixed numbers*** (**MN**) and **improper fractions** (**IF**).



3. Factor Strings: List each number's factors.

4: { , , } **8:** { , , , } **12:** { , , , , , }

5: { , } **9:** { , , } **13:** { , }

6: { , , , } **10:** { , , , } **14:** { , , , }

7: { , } **11:** { , } **15:** { , , , }

4. Simplify each expression.

$4(2 + 3) =$ ☐ $2(9 - 6) =$ ☐

5. *Write:* Prime (**P**) or Composite (**C**)

7: **P** 5: ___ 14: ___ 15: ___

4: **C** 9: ___ 13: ___ 6: ___

PART 2: *Application Practice*

6. *Complete*. Select the answer describing the decimal pattern.

	0.77	0.67	0.57			0.27		

Ⓐ The decimals are decreasing by $^1/_{100}$ toward the right.

Ⓑ The decimals are decreasing by $^1/_{10}$ toward the right.

7. What is the correct equality of the *decimal* and *proper fraction*?

Ⓐ $^1/_6 = 0.6$ Ⓒ $^6/_{10} = {}^1/_6$

Ⓑ $0.5 = {}^5/_{10}$ Ⓓ $^6/_{10} = 0.6$

8. Rodney spent $4.15 on chips and $7.99 on chicken. If he paid with a 20-dollar bill, what is the amount of change that he received?

Ⓐ $ 7.86 Ⓒ $ 6.86

Ⓑ $ 5.85 Ⓓ $ 7.76

9. Eric and Gail walked a total of 239.5 kilometers during the summer. Their goal next summer is to walk 75 kilometers farther than they did this summer. Compute their distance goal.

Ⓐ 247 km. Ⓒ 164.5 km.

Ⓑ 314.5 km. Ⓓ 75 km.

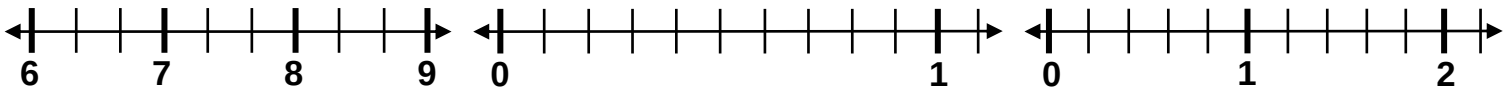
10. Complete the table below.

How many pounds in:	lbs.
32 ounces	
64 ounces	
80 ounces	
48 ounces	

Note: 16 dry ounces = 1 pound (lb.)

PART 3: *Reflection and Conceptual Understanding*

Write the **denominator** for each *number line* on the line provided.



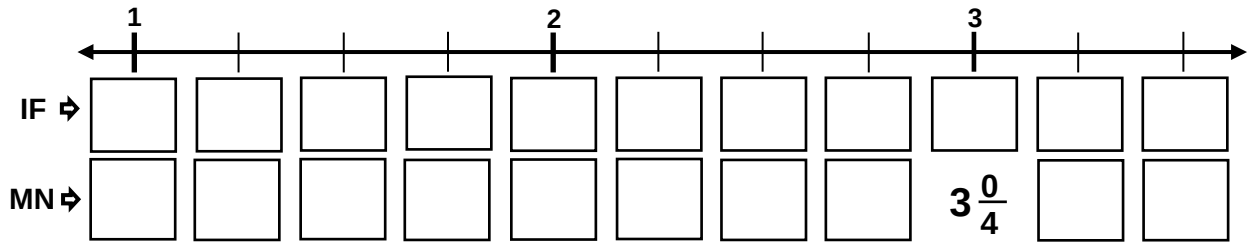
a.) _____ **b.)** _____ **c.)** _____

PART 1: *Numeracy Development*

1. Multiply.

$$\begin{array}{r} 444 \\ \times\ 22 \\ \hline \end{array}$$

2. Complete the number line: ***mixed numbers*** (**MN**) and **improper fractions** (**IF**).



3. Factor Strings: List each number's factors.

8: { , , , } **12:** { , , , , , } **16:** { , , , , }

9: { , , } **13:** { , } **17:** { , }

10: { , , , } **14:** { , , , } **18:** { , , , , , }

11: { , } **15:** { , , , } **19:** { , }

4. Simplify each expression.

$8(12 \div 3) =$ ☐ $4(5 \times 2) =$ ☐

5. *Write:* Prime (**P**) or Composite (**C**)

7:___ 8:___ 17:___ 18:___

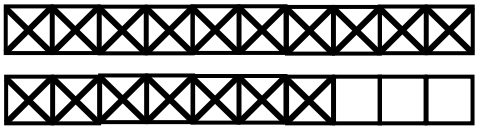
9:___ 2:___ 14:___ 19:___

PART 2: *Application Practice*

6. Divide with *Remainders.* ***Check*** quotient by multiplication.

$5\overline{)26}$ R ___ $5\overline{)267}$ R ___ $5\overline{)2{,}678}$ R ___

7. What is the correct equality of the *decimal* and *mixed number*?



Ⓐ $^{17}/_{6} = 1.6$ Ⓒ $1\ ^{7}/_{10} = 1\ ^{1}/_{7}$

Ⓑ $1.7 = {}^{7}/_{10}$ Ⓓ $1\ ^{7}/_{10} = 1.7$

8. Diego's 2nd grade class is going on a field trip. There are 26 students in Diego's class. If only 5 students can ride in a car, what is the least number of cars needed to transport all 26 students?

Ⓐ 4 cars Ⓒ 6 cars

Ⓑ 5 cars Ⓓ 7 cars

9. Jessica is rock climbing. She has a 150 yard rope. What is the rope's length in feet?
(1 yard = 3 feet).

Ⓐ 30 feet Ⓒ 50 feet

Ⓑ 450 feet Ⓓ 75 feet

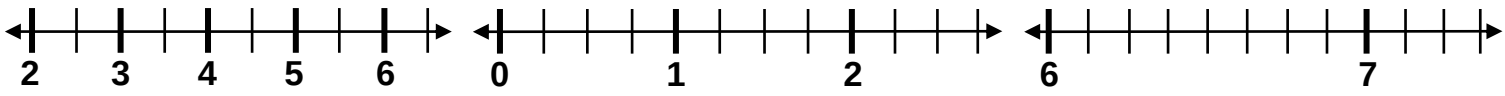
10. Complete the table below.

How many ounces in:	ounces
2 pounds (lbs.)	
5 pounds (lbs.)	
3 pounds (lbs.)	
10 pounds (lbs.)	

Note: 16 dry ounces = 1 pound (lb.)

PART 3: *Reflection and Conceptual Understanding*

Write the **denominator** for each *number line* on the line provided.



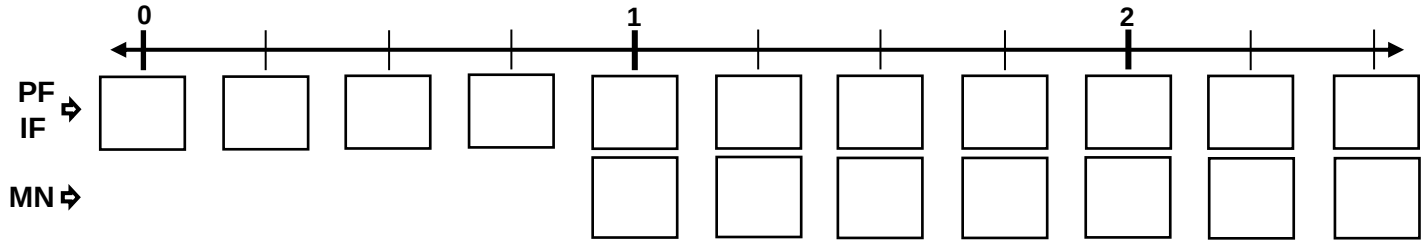
a.) _____ **b.)** _____ **c.)** _____

Fall Learning Opportunity **42**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Write the ***mixed numbers*** (**MN**), **proper fractions (PF)** and **improper fractions** (**IF**).



2. Factor Strings: List each number's factors.

8: { , , , } **12:** { , , , , , } **16:** { , , , , }

9: { , , } **13:** { , } **17:** { , }

10: { , , , } **14:** { , , , } **18:** { , , , , , }

11: { , } **15:** { , , , } **19:** { , }

3. Simplify each expression.

5(15 ÷ 3) = ☐ 2(5 x 6) = ☐

4. *Write:* Prime (**P**) or Composite (**C**)

3:___ 9:___ 19:___ 16:___

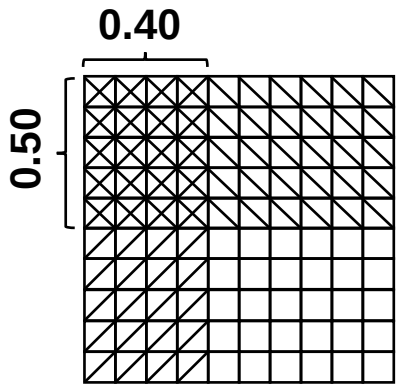
5:___ 8:___ 13:___ 18:___

PART 2: *Application Practice*

5. Divide with *Remainders.*

$6\overline{)26}$ R ___ $6\overline{)269}$ R ___ $6\overline{)2{,}695}$ R ___

6. Determine the *decimal* **product**.



x 0.4
0.5
☐

Each square = 0.01 or $^{1}/_{100}$.

7. Jesus has 26 toy cars. He can put six toy cars in a box. What is the least number of boxes he needs to put all 26 cars in boxes?

Ⓐ 5 boxes Ⓒ 7 boxes

Ⓑ 6 boxes Ⓓ 9 boxes

8. What is the area of the parallelogram if its length is 6 feet and width is 4 feet?

_____ square feet

9. Complete the table.

How many pounds in:	pounds
2 tons	
5 tons	

Note: 1 ton = 2,000 pounds (lbs.)

PART 3: *Reflection and Conceptual Understanding*

DIVISIBILITY: *A number is divisible:*

- by **2** IF the number is *even*.
- by **5** IF the *last digit ends in 5 or 0*.
- by **10** IF the *last digit ends in 0*.

Write if the number is divisible by 2, 5 and/or 10.

8: ***2*** 10: _____ 12: _____

20: ***2, 5, 10*** 6: _____ 50: _____

15: _____ 25: _____ 36: _____

Fall Learning Opportunity **43**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Write a decimal equivalent.

5 = ***5.0*** 15 = _____

7 = ***7.00*** 1 = _____

9 = _____ 34 = _____

2. Prime (**P**) or Composite (**C**)?

2: ___ 21: ___ 25: ___

9: ___ 16: ___ 30: ___

4: ___ 23: ___ 55: ___

3. Compute the decimal quotient.

$7\overline{)2.1}$ $5\overline{)1.0}$ $5\overline{)5.05}$

4. List the factors.

20: { , , , , , }

21: { , , , }

22: { , , , }

23: { , }

5. Write each equivalent expression.

8 plus 3, then x 5 = ___ (___ + ___)

5 times 3, then add 6 = ___ + (___ x ___)

9 minus 2, then x 12 = ___ x (___ - ___)

6. Compare (<, >, =)

0.251 ◯ 0.26

5.2 ◯ 5.200

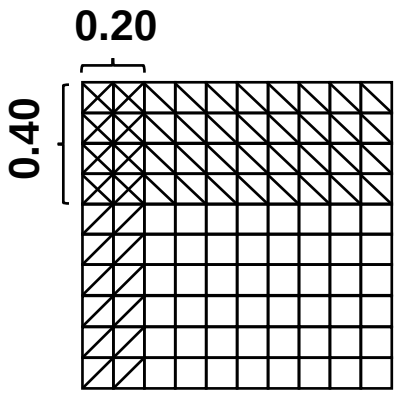
0.46 ◯ 0.6

PART 2: *Application Practice*

7. Divide with *Remainders.* Check by multiplying.

$20\overline{)153}$ R ___ $62\overline{)465}$ R ___

8. Determine the *decimal* **product**.



x **0.2**
0.4
_____

Each square = 0.01 or $^{1}/_{100}$.

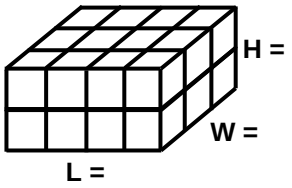
9. Al placed 2 tons in the bed of his truck. Jim put 3 more tons than Al in his truck. What is the combined weight in pounds in both vehicles?

Ⓐ 10,000 Ⓒ 5,000

Ⓑ 14,000 Ⓓ 7,000

10. What is **Volume** of the prism below?

(Volume = L x W x H)



_____ cubic units

11. Complete the table.

How many pounds in:	pounds
7 tons	
10 tons	

Note: 1 ton = 2,000 pounds (lbs.)

PART 3: *Reflection and Conceptual Understanding*

DIVISIBILITY: *A number is divisible:*

- by **2** IF the number is *even*.
- by **5** IF the *last digit ends in 5 or 0*.
- by **10** IF the *last digit ends in 0*.

Write if the number is divisible by 2, 5 and/or 10.

12: _____ 70: _____ 36: _____

60: _____ 88: _____ 120: _____

18: _____ 55: _____ 75: _____

Fall Learning Opportunity 44
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

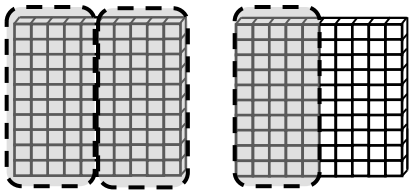
1. Make **10.0** – Add up.

8.6 = ***1.4*** 7.0 = _____

8.9 = _____ 6.9 = _____

7.5 = _____ 8.5 = _____

2. Determine the quotient.



1.50 ÷ 3 = ____

3. Compute the decimal quotient.

$3\overline{)1.50}$ $2\overline{)0.8}$ $4\overline{)24.8}$

4. List the factors.

20: { , , , , , }

21: { , , , }

22: { , , , }

23: { , }

5. Write each equivalent expression.

4 times 9, then minus 7 = (___ x ___) – ___

12 divided by 3, times 6 = (___ ÷ ___) x ___

11 plus 5, then x 12 = ___(___ + ___)

6. Compare (<, >, =)

0.02 ◯ 0.006

1.20 ◯ 1.1

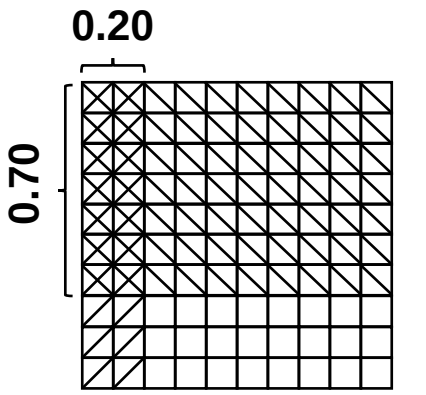
0.7 ◯ 0.700

PART 2: *Application Practice*

7. Divide with *Remainders.* Check by multiplying.

$10\overline{)146}$ R ___ $45\overline{)475}$ R ___

8. Determine the *decimal* **product**.



x 0.7
0.2

Each square = 0.01 or $^{1}/_{100}$.

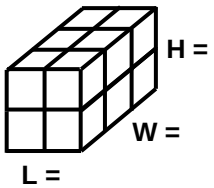
9. The Elm Elementary librarian tried to stack 873 books in 25 equal groups. How many books was she unable to place in an equal group of 25 books?

Ⓐ 34 Ⓒ 24

Ⓑ 23 Ⓓ 33

10. What is **Volume** of the prism below?

(Volume = L x W x H)



_____ cubic units

11. Complete the table.

How many feet in:	feet
2 miles	
3 miles	

Note: 1 mile = 5,280 feet

PART 3: *Reflection and Conceptual Understanding*

DIVISIBILITY: *A number is divisible:*

- by **3** IF the sum of the digits is divisible by 3.
- by **6** IF the number is even AND divisible by 3.
- by **9** IF the sum of the digits is divisible by 9.

Write if the number is divisible by 3, 6 and/or 9.

18: ***3, 6, 9*** 45: _____ 36: _____

66: _____ 33: _____ 81: _____

15: _____ 27: _____ 72: _____

Fall Learning Opportunity **45**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

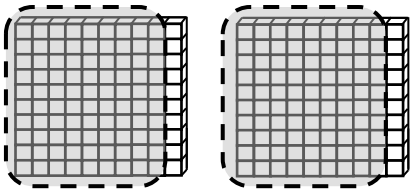
1. Make **10.0** – Add up.

5.9 = _____ 3.0 = _____

9.0 = _____ 7.3 = _____

7.8 = _____ 6.5 = _____

2. Determine the quotient.



1.80 ÷ 2 = ____

3. Compute the decimal quotient.

$2\overline{)1.80}$ $3\overline{)0.9}$ $5\overline{)35.5}$

4. List the factors.

24: { , , , , , , , }

25: { , , }

27: { , , , }

28: { , , , , , }

5. Complete.

$y = x + 12$

x	y
5	
8	

6. Calculate.

3 + [2(4 + 0)] = ☐

9 - [3(9 - 7)] = ☐

[5(1 + 1)] – 5 = ☐

7. Compare (<, >, =)

6.07 ◯ 6.009

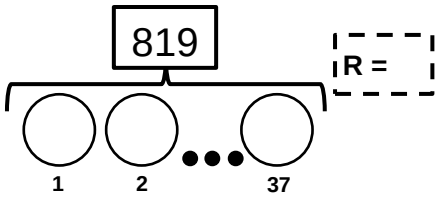
0.201 ◯ 0.3

4.1 ◯ 4.100

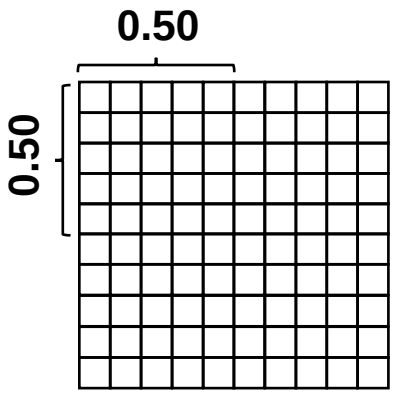
PART 2: *Application Practice*

8. Divide. **Check** *by multiplying*. **Complete** diagram.

$37\overline{)819}$ R



9. Cross-shade and **calculate** the product.



x **0.5**
0.5

☐

Each square = 0.01 or $^{1}/_{100}$.

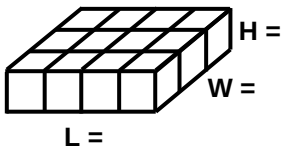
10. Dan has 3 brothers. Dan's mom separated $12.40 into equal groups for her four sons. How much money did each brother receive?

Ⓐ $ 49.20 Ⓒ $ 4.10

Ⓑ $ 4.92 Ⓓ $ 3.10

11. What is **Volume** of the prism below?

(Volume = L x W x H)



_____ cubic units

12. Complete the table.

How many inches in:	inches
5 feet	
8 feet	

Note: 1 foot = 12 inches

PART 3: *Reflection and Conceptual Understanding*

DIVISIBILITY: *A number is divisible:*

- by **3** IF the sum of the digits is divisible by 3.
- by **6** IF the number is even AND divisible by 3.
- by **9** IF the sum of the digits is divisible by 9.

Write if the number is divisible by 3, 6 and/or 9.

12: ***3, 6*** 66: _____ 36: _____

99: _____ 51: _____ 27: _____

63: _____ 60: _____ 18: _____

Fall Learning Opportunity **46**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

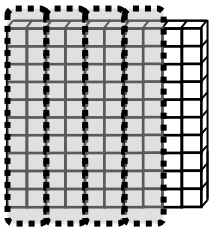
1. Make **10.0** – Add up.

3.9 = _____ 4.6 = _____

2.5 = _____ 5.7 = _____

1.8 = _____ 0.5 = _____

2. Choose the division equation.



Ⓐ 0.80 ÷ 3 = 0.20

Ⓑ 0.60 ÷ 3 = 1.80

Ⓒ 0.60 ÷ 3 = 0.20

Ⓓ 0.80 ÷ 4 = 0.20

3. Find the decimal quotients.

$2\overline{)0.86}$ $9\overline{)27.9}$

4. List the factors.

24: { , , , , , , , }

25: { , , }

27: { , , , }

28: { , , , , , }

5. Complete.

$y = 3(x + 4)$

x	y
0	
1	

6. Calculate.

(5 x 2) x (4 + 0) = ☐

4 + [7(2 + 1)] = ☐

[6(2 + 2)] ÷ 3 = ☐

7. Compare (<, >, =)

0.429 ◯ 0.5

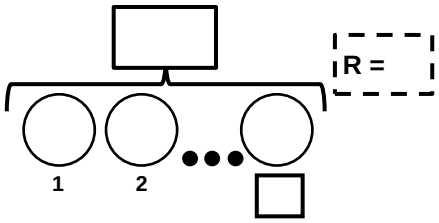
0.2 ◯ 0.391

0.1 ◯ 0.100

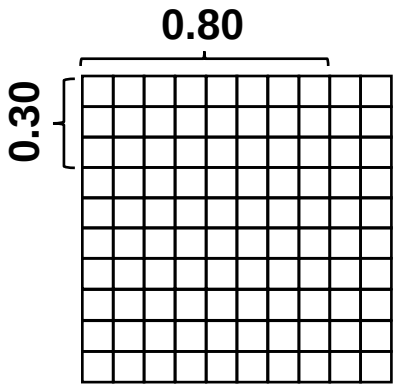
PART 2: *Application Practice*

8. Divide. **Check** *by multiplying*. **Complete** diagram.

$51\overline{)847}$ R



9. Cross-shade and **calculate** the product.



x 0.3
0.8
☐

Each square = 0.01 or $^{1}/_{100}$.

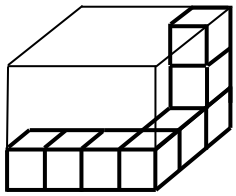
10. Jo saved her $2.50 weekly allowance for 5 weeks. At the store, Jo spent $4.75 on gum and soda. How much money does she have left after her purchases?

Ⓐ $ 12.50 Ⓒ $ 7.75

Ⓑ $ 12.25 Ⓓ $ 7.25

11. What is **Volume** of the prism below?

(Volume = L x W x H)



_____ cubic units

12. Complete the table.

How many feet in:	feet
36 inches	
2 yards	

Note: 1 foot = 12 inches and 1 yard = 3 feet

PART 3: *Reflection and Conceptual Understanding*

Decimal Multiplication: *Count* the decimal places and *correctly* place the decimal point in the **product**.

0.5 ➡ 1
x 0.5 ➡ 1
0.25 (2)

Move decimal 2 places.

0.5 ➡ 1
x 3 ➡ 0
1.5 (1)

Move decimal 1 place.

Note: 3 = 3.

2.5 ➡ 1
x 4 ➡ 0
10 0 ◯

0.5 ➡ 1
x 0.7 ➡ 1
0 35 ◯

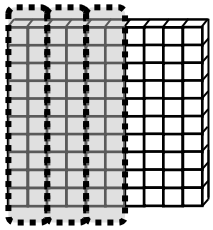
0.53 ➡ 2
x 0.4 ➡ 1
0 212 ◯

Fall Learning Opportunity 47
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Choose the division equation.



Ⓐ 0.80 ÷ 3 = 0.20
Ⓑ 0.60 ÷ 3 = 1.80
Ⓒ 0.60 ÷ 3 = 0.20
Ⓓ 0.60 ÷ 4 = 0.15

2. Multiply – Find the product.

2.3	6.1	0.4
x 0.7	x 6	x 0.5
_____	_____	_____

3. Divide – Find the quotient.

$3\overline{)0.18}$ $9\overline{)37.8}$

4. List the factors.

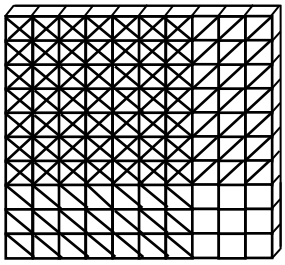
30: { , , , , , , , }

32: { , , , , , }

33: { , , , }

36: { , , , , , , , , }

5. Choose the multiplication equation.



Ⓐ 0.6 x 0.7 = 0.42
Ⓑ 0.6 x 0.8 = 0.48
Ⓒ 0.7 x 0.7 = 0.49
Ⓓ 0.6 x 0.6 = 0.36

6. Complete.

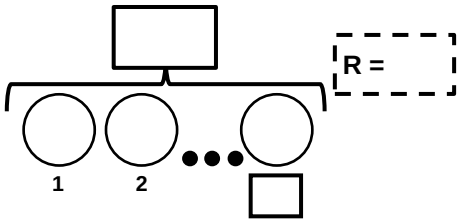
$y = 7(x - 4)$

x	y
9	
11	

PART 2: *Application Practice*

7. Divide. **Check** *by multiplying*. **Complete** diagram.

$9\overline{)852}$ R



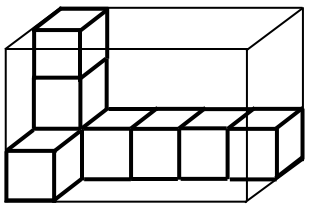
8. Kendall walks 3.7 miles to school each morning. How many miles does Kendall walk in 5 mornings?

Ⓐ 185 miles
Ⓑ 18.5 miles
Ⓒ 137 miles
Ⓓ 13.7 miles

9. Jettra's teacher asked her and Kim to choose a decimal less than 1 whole. Jettra chose 0.4, and Kim picked 0.9. What is the product of their decimals?

Ⓐ 3.6
Ⓑ 1.3
Ⓒ 0.36
Ⓓ 0.13

10. What is **Volume** of the prism below? *(Volume = L x W x H)*



_____ cubic units

11. Complete the table.

How many feet in:	feet
60 inches	
6 inches	
2 miles	
5 yards	

Note: 1 foot = 12 inches 1 yard = 3 feet 1 mile = 5,280 feet

PART 3: *Reflection and Conceptual Understanding*

Decimal Multiplication: *Count* the decimal places and *correctly* place the decimal point in the **product**.

0.65 → 2	9.5 → ☐	5.1 → ☐	0.15 → ☐	6.52 → ☐	0.53 → ☐
x 0.4 → 1	x 2 → ☐	x 1.2 → ☐	x 0.3 → ☐	x 0.7 → ☐	x 4 → ☐
0.962 (3)	19 0 ◯	6 12 ◯	0 045 ◯	4 564 ◯	2 12 ◯

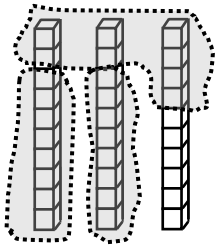
Fall Learning Opportunity 48

"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Choose the division equation.



Ⓐ 2.4 ÷ 4 = 0.6

Ⓑ 2.4 ÷ 3 = 0.8

Ⓒ 2.4 ÷ 8 = 0.3

Ⓓ 2.4 ÷ 6 = 0.4

2. Multiply – Find the product.

2.3×1.7 $\quad$ 4.1×3 $\quad$ 0.8×0.2

3. Divide – Find the quotient.

$3\overline{)0.6}$ $\quad$ $4\overline{)1.28}$

4. List the factors.

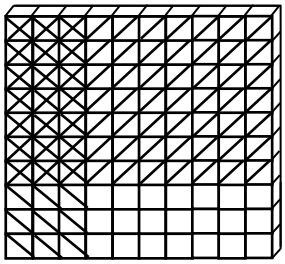
30: { , , , , , , , }

32: { , , , , , }

33: { , , , }

36: { , , , , , , , , }

5. Choose the multiplication equation.



Ⓐ 0.4 x 0.7 = 0.28

Ⓑ 0.6 x 0.4 = 0.24

Ⓒ 0.7 x 0.3 = 0.21

Ⓓ 0.4 x 0.8 = 0.32

6. Complete.

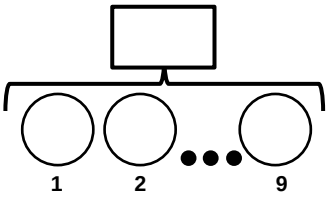
$y = (x - 4) \times 5$

x	y
7	
9	

PART 2: *Application Practice*

7. Multiply. **Complete** diagram.

5.3×9

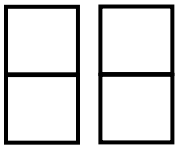


8. Betty poured 6 bottles of vinegar in a large beaker. If each bottle contained 0.87 liters, how much vinegar did she use?

Ⓐ 5.22 liters Ⓒ 52.2 liters

Ⓑ 522 liters Ⓓ 0.522 liters

9. *Shade* the improper fraction $^3/_2$. *Write* its mixed number equivalent.



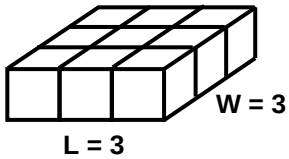
_____ mixed number

10. Angela picked 4.5 kg. of berries. She placed the berries equally in 9 jars. What is the mass (kg.) of berries in each jar?

Ⓐ 0.9 kg. Ⓒ 40.5 kg.

Ⓑ 0.5 kg. Ⓓ 13.5 kg.

11. The volume of a prism is 18 cubic units. If its base is shown below, what is the **height** of the prism? *(Volume = L x W x H)*



_____ height of prism

12. Complete the table.

How many ounces in:	ounces
2 pints	
2 gallons	
3 quarts	
4 cups	

Note: 1 cup = 8 ounces 1 pint = 16 ounces

1 quart = 32 ounces 1 gallon= 128 ounces

PART 3: *Reflection and Conceptual Understanding*

Decimal Multiplication: *Count* the decimal places and *correctly* place the decimal point in the **product**.

$3.65 \rightarrow 2$

$\times \quad 0.4 \rightarrow 1$

1.460 ③

$0.8 \rightarrow \square$

$\times \quad 2 \rightarrow \square$

16 ◯

$3.2 \rightarrow \square$

$\times \quad 2.1 \rightarrow \square$

672 ◯

$0.25 \rightarrow \square$

$\times \quad 0.9 \rightarrow \square$

0225 ◯

$5.07 \rightarrow \square$

$\times \quad 1.6 \rightarrow \square$

8112 ◯

$0.44 \rightarrow \square$

$\times \quad 4 \rightarrow \square$

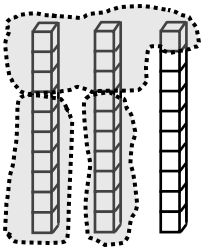
176 ◯

Fall Learning Opportunity 49
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Choose the division equation.



Ⓐ 2.1 ÷ 7 = 0.3

Ⓑ 1.8 ÷ 3 = 0.6

Ⓒ 2.1 ÷ 3 = 0.7

Ⓓ 2.5 ÷ 5 = 0.5

2. Multiply – Find the product.

3.8	8.4	0.3
x 1.2	x 3	x 0.4
_____	_____	_____

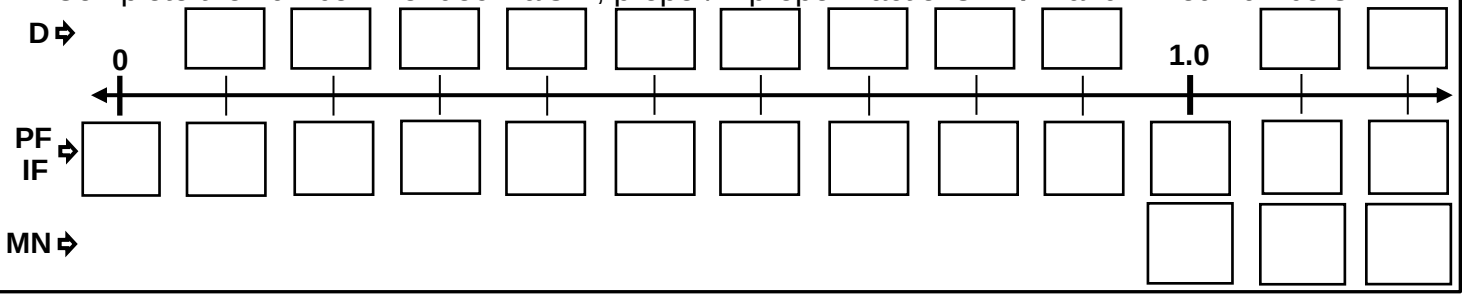
3. Match with an arrow.

1.0 x 3 = ? — Product = 1

1.0 x 0.7 = ? — Product > 1

1.0 x 1 = ? — Product < 1

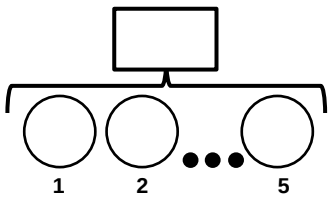
4. Complete the number line: decimals **D**, proper/improper fractions **PF/IF** and mixed numbers **MN**.



PART 2: *Application Practice*

5. Multiply. **Complete** diagram.

8.2 x 5

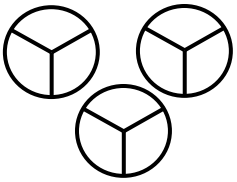


6. Jesus drank 2.5 liters of water each day for 7 days. How much water did Jesus drink in the last week?

Ⓐ 9.5 liters Ⓒ 3.5 liters

Ⓑ 5.5 liters Ⓓ 17.5 liters

7. *Shade* the improper fraction $^{7}/_{3}$. *Write* its mixed number equivalent.



_____ mixed number

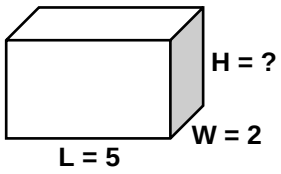
8. Andrea ran the 100 meter dash in 10.2 seconds. Luz crossed the finished line in 10.16 seconds. How much faster is Luz than Andrea racing 100 meters?

Ⓐ 0.06 s. Ⓒ 0.18 s.

Ⓑ 0.04 s. Ⓓ 20.36 s.

9. The volume of the prism shown below is 30 cubic units. What is the **height** of the prism?

(Volume = L x W x H)



Height (**H) =** ____

10. Complete the table.

How many ounces in:	ounces
5 pints	
3 gallons	
2 quarts	
3 cups	

Note: 1 cup = 8 ounces 1 pint = 16 ounces
1 quart = 32 ounces 1 gallon= 128 ounces

PART 3: *Reflection and Conceptual Understanding*

Estimating Division: Round the **divisor**. **Dividend** *changed* to math fact compatible number.

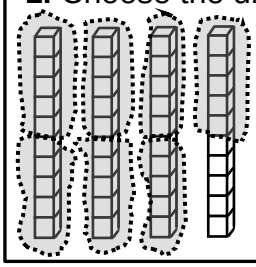
62)588	7)543	*Estimate the division equations to find the quotients.* ➡	31)253	6)341	46)147	3)208
⇩	⇩		⇩	⇩	⇩	⇩
60)540	7)560		30)240	6)360	)	)

Fall Learning Opportunity 50
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Choose the division equation.



Ⓐ 3.5 ÷ 5 = 0.7

Ⓑ 3.5 ÷ 7 = 0.5

Ⓒ 3.5 ÷ 8 = 0.5

Ⓓ 3.5 ÷ 7 = 0.9

2. Find *equivalent* Improper fractions.

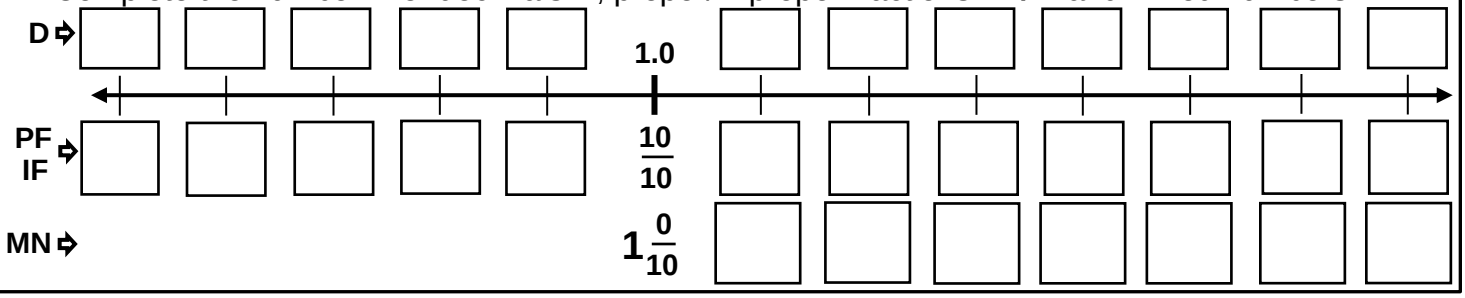
$1\frac{1}{10} = \frac{11}{10}$ $1\frac{7}{10} = \square$

$1\frac{6}{10} = \square$ $1\frac{0}{10} = \square$

3. Match with an arrow.

5.0 x 1 = ?	Product < 5
5.0 x 0.6 = ?	Product = 5
5.0 x 3 = ?	Product > 5

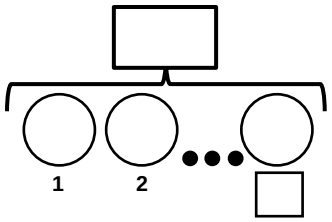
4. Complete the number line: decimals **D**, proper/improper fractions **PF/IF** and mixed numbers **MN**.



PART 2: *Application Practice*

5. Multiply. **Complete** diagram.

$$\begin{array}{r} 6.9 \\ \times\ 1\ 2 \\ \hline \end{array}$$



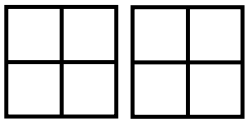
6. Refer to the number line in problem 4 above to answer the following question. Is this mathematical statement true?

$1\frac{7}{10} = \frac{17}{10} = 1.7$

Yes

No

7. *Shade* the improper fraction $^{7}/_{4}$. *Write* its mixed number equivalent.



_____ mixed number

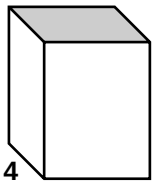
8. The Chicago water tower is 49.85 meters tall. The Los Angeles water tower is 71.2 meters tall. How much taller is the Los Angeles water tower than the Chicago's?

Ⓐ 120.7 m Ⓒ 42.73 m

Ⓑ 21.35 m Ⓓ 30.27 m

9. The volume of the prism shown below is 120 cubic units. What is the **height** of the prism?

(Volume = L x W x H)



Height (**H) =** ____

10. Complete the table.

How many quarts in:	quarts
4 pints	
3 gallons	
32 ounces	
8 cups	

Note: 4 cups = 1 quart 2 pints = 1 quart
1 quart = 32 ounces 1 gallon= 4 quarts

PART 3: *Reflection and Conceptual Understanding*

Estimating Division: Round the **divisor**. **Dividend** *changed* to math fact compatible number.

$77\overline{)588}$ ⇩ $80\overline{)560}$ (7)

$4\overline{)849}$ ⇩ $4\overline{)800}$ (200)

Estimate the division equations to find the quotients. ➡

$28\overline{)141}$ ⇩ $30\overline{)150}$

$6\overline{)631}$ ⇩ $6\overline{)600}$

$16\overline{)178}$ ⇩ $)$

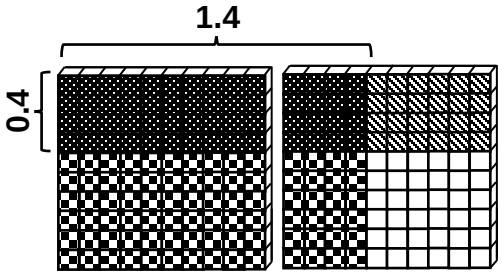
$5\overline{)246}$ ⇩ $)$

Fall Learning Opportunity **51**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Decimal product understanding.



a.) Write the total number of double shaded blocks. _____

b.) Will the product be greater or less than 1.4? _____

c.) Compute the product. _____

2. Find the **improper fraction**.

$2\frac{1}{2} = \frac{5}{2}$ $4\frac{3}{4} = \square$

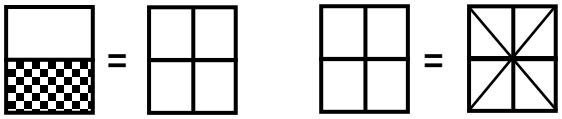
$3\frac{1}{10} = \square$ $3\frac{0}{8} = \square$

3. Match with an arrow.

8 x 0.9 = ?	Product > 8
8 x 1 = ?	Product < 8
8 x 1.1 = ?	Product = 8

4. *Find and shade equivalent fractions*.

$\frac{1}{2} \overset{x2}{=} \frac{\square}{4}$ $\frac{3}{4} \overset{x2}{=} \frac{\square}{8}$



5. Use the rule.

$y = 4(x)$

x	y
5	
7	

PART 2: *Application Practice*

6. Find the **fraction** of **prime numbers** that are written on the cards.

7	6	3	4	5	11	8

Ⓐ $^3/_7$ Ⓒ $^5/_7$

Ⓑ $^4/_7$ Ⓓ $^6/_7$

7. Phil placed 1,620 coins in 45 equal stacks. How many coins did Phil place in the 5th stack?

Ⓐ 37 Ⓒ 35

Ⓑ 36 Ⓓ 34

8. Britney assembled a rectangular prism out of interlocking blocks. She had 3 rows of 5 blocks by 4 blocks. What is the total number of blocks in Britney's prism?

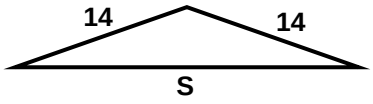
_____ blocks

9. Josh has 432 meters of chain. If he cuts the chain in 6 equal pieces, what is the estimated length of each chain segment?

Ⓐ 50 m Ⓒ 70 m

Ⓑ 60 m Ⓓ 80 m

10. The perimeter of an *isosceles triangle* is 47 meters. What is the equation, S to determine the unknown side?



Ⓐ S = 47 – (2 x 14) Ⓒ S = 47 – (47 x 2)

Ⓑ S = 47 + (2 x 14) Ⓓ S = 47 + (2 + 14)

11. Complete the table.

Find the meters in:	**meters**
250 centimeters	
2 kilometers	
105 centimeters	
2.5 kilometers	

Note: 1 meter = 100 centimeters
1,000 meters = 1 kilometer

PART 3: *Reflection and Conceptual Understanding*

Fill in the boxes of the equality below so **improper fractions** are mathematically correct.

$1 = \frac{1}{1} = \frac{\square}{2} = \frac{3}{\square} = \frac{4}{4} = \frac{\square}{5} = \frac{\square}{8} = \frac{12}{\square} = \frac{19}{19} = \frac{45}{\square} = \frac{\square}{100}$

Complete:

$7 \times 1 = \square$

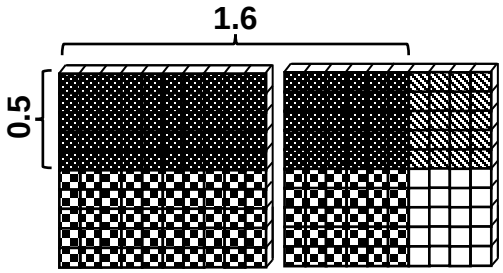
$7 \times \frac{2}{2} = \square$

Fall Learning Opportunity 52
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Decimal product understanding.



a.) Write the total number of double shaded blocks. _____

b.) Will the product be greater or less than 1.6? _____

c.) Compute the product. _____

2. Find: **improper fractions**.

$5\frac{1}{4} = \square$ $4\frac{3}{10} = \square$

$1\frac{3}{5} = \square$ $7\frac{0}{9} = \square$

3. Common **multiples**: 2 and 3.

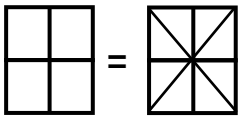
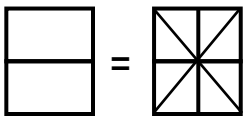
2: *0, 2, 4, 6, 8, 10, 12, 14, 16, 18*

3: *0, 3, 6, 9, 12, 15, 18, 21, 24, 27*

- *Circle all common multiples.*
- *What is the Lowest Common Multiple (**LCM**) of 2 and 3?* ____

4. *Find and shade equivalent fractions.*

$\frac{2}{4} \overset{x2}{=} \frac{\square}{8} \overset{x2}{}$ $\frac{1}{2} = \frac{4}{\square}$

5. Use the rule.

$y = 3(x)$

x	y
3	
7	

PART 2: *Application Practice*

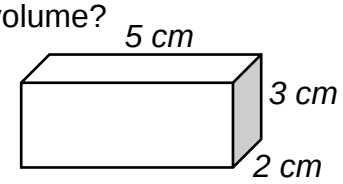
6. Find the **fraction** of **composite numbers** that are written on the cards.

6	10	4	3	21	25

Ⓐ $^3/_6$ Ⓒ $^5/_6$

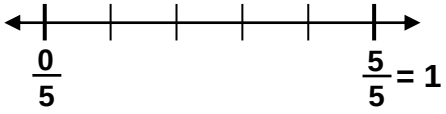
Ⓑ $^4/_6$ Ⓓ $^6/_6$

7. What is the prism's volume?



Volume = ____ cm^3

8. Jim ate $^2/_5$ of a candy bar. He gave $^1/_5$ of the bar to a friend. What fraction remains? *(Use the number line, as needed.)*



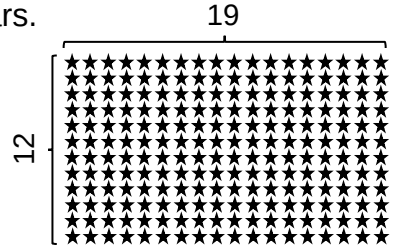
Fraction of the bar left = ☐

9. Cal ran a 5 kilometer (km) race. Jef jogged 7.4 km. Pho ran 1,200 meters. How much farther did Cal run than Pho?

Ⓐ 12.4 km Ⓒ 3.8 km

Ⓑ 6.2 km Ⓓ 7.2 km

10. Ron drew the following star array on the computer. Sally wanted to know how many stars Ron drew. Calculate the total number of stars.



____ stars

11. Complete the table.

Find the meters in:	**meters**
500 centimeters	
270 centimeters	
1.5 kilometers	

Note: 1 meter = 100 centimeters
1,000 meters = 1 kilometer

PART 3: *Reflection and Conceptual Understanding*

Complete:

$6 \times 1 = \square$ $\frac{2}{5} \times 1 = \square$ $\frac{6}{8} \div 1 = \square$

$6 \times \frac{4}{4} = \square$ $\frac{2}{5} \times \frac{3}{3} = \square$ $\frac{6}{8} \div \frac{2}{2} = \square$

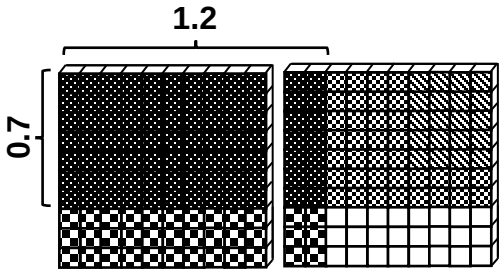
*What **whole number** is **multiplied** or **divided** when calculating **equivalent fractions**?* ____

Fall Learning Opportunity **53**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Decimal product understanding.



a.) Write the total number of double shaded blocks. _____

b.) Will the product be greater or less than 1.2? _____

c.) Compute the product. _____

2. Find: **improper fractions**.

$3 = \square$ $\quad 1\frac{9}{10} = \square$

$7\frac{2}{5} = \square$ $\quad 3\frac{2}{8} = \square$

3. Common **multiples**: 2 and 4.

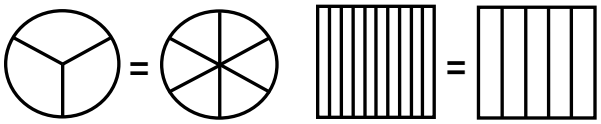
2: *0, 2, 4, 6, 8, 10, 12, 14, 16, 18…*

4: *0, 4, 8, 12, 16, 20, 24, 28, 32…*

- *Circle all common multiples.*
- *What is the Lowest Common Multiple (**LCM**) of 2 and 4?* ____

4. *Find and shade equivalent fractions.*

$\frac{1}{3} = \frac{2}{\square}$ $\quad \frac{\square}{10} = \frac{4}{5}$



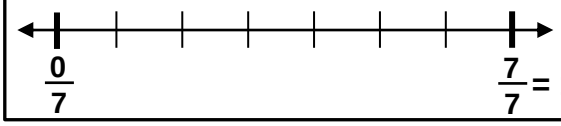
5. Find the rule.

$y = \square(x)$

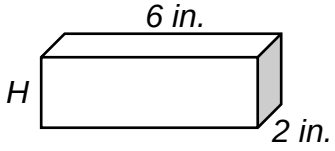
x	y
3	21
11	77

PART 2: *Application Practice*

6. Kim ran $^3/_7$ of a mile and rested. She then ran another $^2/_7$ of a mile. What is the total distance she ran? Label and show the solution on the number line.

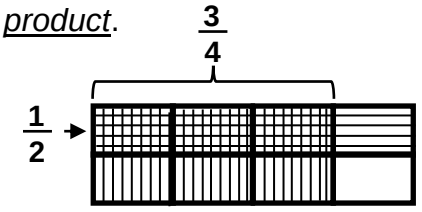


7. The volume is 36 in^3. Find the height (H).



The height = ____ inches

8. Caleb multiplied ¾ by ½. *Use* the diagram to find the *product*.



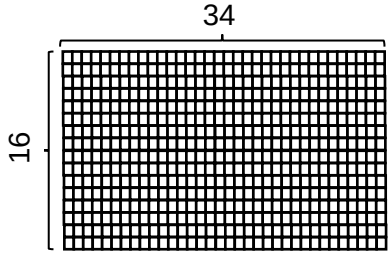
$\frac{3}{4} \times \frac{1}{2} = \square$

9. Daniel drank $^5/_8$ of a can of soda. Sara finished her can of soda. How much more soda did Sara drink than Daniel?

Ⓐ $^4/_8$ Ⓒ $^3/_8$

Ⓑ $^5/_8$ Ⓓ $^1/_2$

10. Dharma planned a stage production of *The Lion King*. She divided the stage in one-foot by one-foot squares. What is the area of the stage?



_____ ft^2

11. Complete the table.

How many cm. in:	cm.
2 meters	
30 millimeters	
15 millimeters	

Note: 1 meter = 100 centimeters (cm)
10 millimeters = 1 centimeter (cm)

PART 3: *Reflection and Conceptual Understanding*

Complete:

$\frac{7}{2} \times 1 = \square$ $\quad \frac{8}{8} \times 1 = \square$ $\quad \frac{12}{3} \div 1 = \square$

$\frac{7}{2} \times \frac{4}{4} = \square$ $\quad \frac{8}{8} \times \frac{2}{2} = \square$ $\quad \frac{12}{3} \div \frac{3}{3} = \square$

*What **whole number** is **multiplied** or **divided** when calculating **equivalent fractions**?*

____

Fall Learning Opportunity 54
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find *equivalent fractions*.

$\frac{1}{3} = \frac{2}{\square}$ $\quad \frac{8}{6} = \frac{\square}{3}$

$\frac{1}{5} = \frac{5}{\square}$ $\quad \frac{8}{4} = \frac{\square}{2}$

2. Find: **improper fractions**.

$6 = \square$ $\quad 2\frac{0}{10} = \square$

$5\frac{4}{5} = \square$ $\quad 2\frac{6}{8} = \square$

3. Common **multiples**: 3 and 4.

3: *0, 3, 6, 9, 12, 15, 18, 21, 24, 27…*

4: *0, 4, 8, 12, 16, 20, 24, 28, 32…*

- *Circle all common multiples.*
- *What is the Lowest Common Multiple (**LCM**) of 3 and 4?* ____

4. Multiply the fractions.

$\frac{1}{3} \times \frac{2}{4} = \square$ $\quad \frac{8}{3} \times \frac{1}{2} = \square$

$\frac{2}{5} \times \frac{1}{2} = \square$ $\quad \frac{7}{1} \times \frac{1}{4} = \square$

5. Divide to find *quotients*.

$7\overline{)1{,}484}$ $\quad 4\overline{)0.84}$ $\quad 6\overline{)27.6}$

6. Find the rule.

$y = \square(x)$

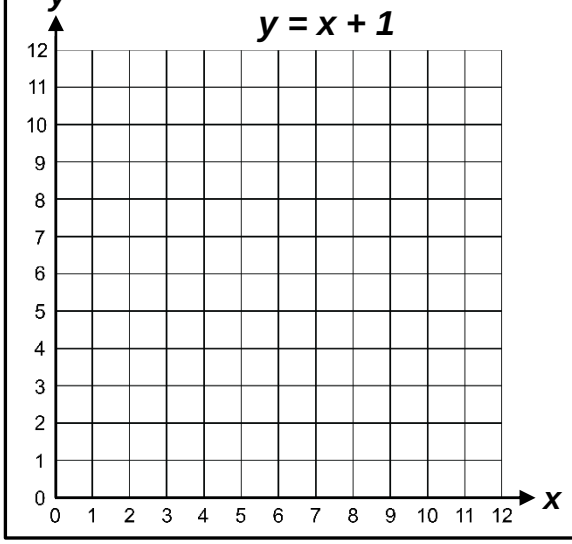
x	y
6	24
8	32

PART 2: *Application Practice*

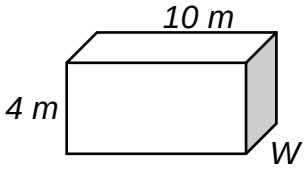
7. *Complete* the table. *Graph* and *connect* the points to form a line.

x	0	2	4	5	8	10
y						

$y = x + 1$

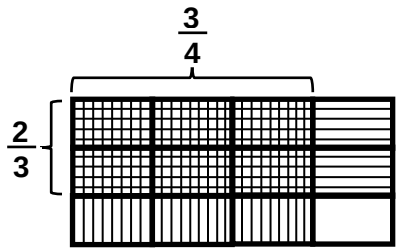


8. The volume is 80 m^3. Find the width (W).



The width = ____ meters

9. *Use* the diagram to help find the *product* of ¾ and $^2/_3$.



$\frac{3}{4} \times \frac{2}{3} = \square$

10. Lizzy climbed a rock wall. She scaled $^4/_9$ of the wall and rested. Then, she climbed $^2/_9$ more. What fraction remains until she reaches the top of the wall? $\square$

11. Complete the table.

How many cm. in:	cm.
6 meters	
48 millimeters	

Note: 1 meter = 100 centimeters (cm)
10 millimeters = 1 centimeter (cm)

PART 3: *Reflection and Conceptual Understanding*

A. Fraction Reminder: *Circle* all the *improper fractions* that are *equal or greater* than 1 whole.

$\frac{8}{9}$ $\quad \frac{6}{5}$ $\quad \frac{5}{10}$ $\quad \frac{5}{5}$ $\quad \frac{11}{10}$ $\quad \frac{9}{1}$ $\quad \frac{0}{5}$ $\quad \frac{9}{4}$

B. Understanding the relationship of ½ - the **numerator** is always ***HALF*** of the **denominator**. *Complete*.

$\frac{1}{2} = \frac{1}{2} = \frac{\square}{4} = \frac{3}{\square} = \frac{4}{8} = \frac{5}{\square} = \frac{\square}{12} = \frac{8}{\square} = \frac{\square}{20} = \frac{30}{\square} = \frac{\square}{100} = \frac{\square}{1{,}000}$

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"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find *equivalent fractions*.

$\frac{1}{2} = \frac{5}{\square}$ $\quad \frac{9}{9} = \frac{\square}{3}$

$\frac{3}{5} = \frac{15}{\square}$ $\quad \frac{10}{8} = \frac{\square}{4}$

2. Find: **improper fractions**.

$8 = \square$ $\quad 8\frac{1}{10} = \square$

$2\frac{2}{3} = \square$ $\quad 4\frac{5}{8} = \square$

3. Make 1.0

0.4 ⇨ ☐

0.45 ⇨ ☐

0.05 ⇨ ☐

4. LCM of 4 and 6.

4	6
0	
	6
16	
	36

LCM =

5. Multiply the fractions.

$\frac{1}{5} \times \frac{4}{2} = \square$ $\quad \frac{8}{3} \times \frac{1}{2} = \square$

$\frac{3}{7} \times \frac{2}{3} = \square$ $\quad \frac{5}{1} \times \frac{3}{4} = \square$

6. Divide to find *quotients*.

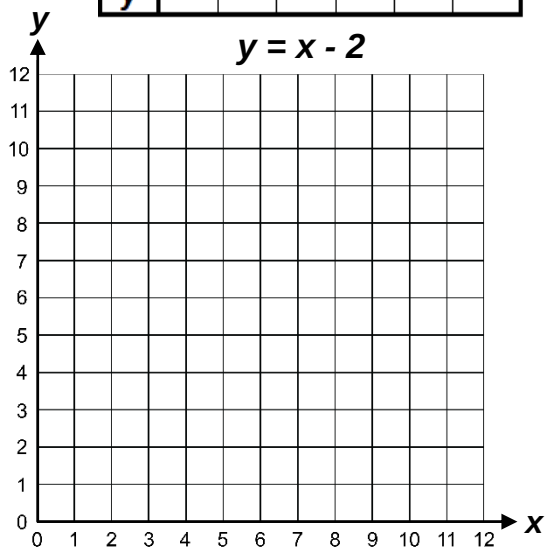
$21\overline{)2{,}205}$ $\quad 2\overline{)1.0}$ $\quad 4\overline{)1.00}$

PART 2: *Application Practice*

7. *Complete* the table. *Graph* and *connect* the points to form a line.

x	2	4	6	7	9	11
y						

y = x - 2

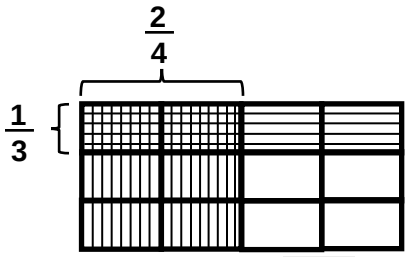


8. Compute the **sum** of $^2/_9$ and $^6/_9$.

Ⓐ $^8/_{18}$ $\quad$ Ⓒ $^9/_8$

Ⓑ $^8/_9$ $\quad$ Ⓓ $^4/_9$

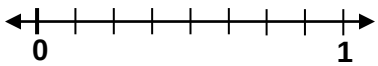
9. *Use* the diagram to find the *product* of $^2/_4$ and $^1/_3$.



$\frac{2}{4} \times \frac{1}{3} = \square$

10. Josh owns 1/8 of a piece of land. Kim owns 5/8 of the same land. Bo owns the rest of the land. What fraction of land does Bo own? *(Completely label and use the number line to solve the problem.)*

☐



11. Complete the table.

How many cm. in:	cm.
3.25 meters	
12 millimeters	

Note: 1 meter = 100 centimeters (cm)
10 millimeters = 1 centimeter (cm)

PART 3: *Reflection and Conceptual Understanding*

Change the **improper fractions** to *equivalent* **mixed numbers** by *dividing*. The fraction changes to a division problem. Remember: *"**R**oll the fraction to the **R**ight!"* Complete.

$\frac{7}{5}$ ↘ $5\overline{)7}$ ⇨ $1\frac{2}{5}$ R 2 $\quad \frac{5}{2}$

$\frac{7}{5} = 1\frac{2}{5}$ ✓

$\frac{9}{2}$ ↘ $\overline{)\ \ }$ ⇨ $\overline{)\ \ }$

$\frac{9}{2} =$

Name: ______________

PART 1: *Numeracy Development*

1. Find *equivalent fractions*.

$\frac{5}{3} = \frac{10}{\square}$ $\frac{\square}{8} = \frac{1}{2}$

2. Find: **improper fractions**.

$6\frac{2}{3} = \square$ $4\frac{0}{7} = \square$

3. Make 10.0

5.4 ⇨ ☐

7.8 ⇨ ☐

4. LCM of 5 and 6.

5	6
0	
	6

LCM =

5. Is the fraction closest to **0, ½ or 1 Whole**? *Write* **0, ½ or 1** on the line.

$\frac{8}{15}$ → ***½*** $\frac{2}{10}$ → ___ $\frac{8}{9}$ → ___ $\frac{14}{100}$ → ___ $\frac{7}{6}$ → ___

6. Multiply.

$\frac{2}{7} \times \frac{7}{2} = \square$

$\frac{9}{5} \times \frac{2}{1} = \square$

7. Find **quotients**.

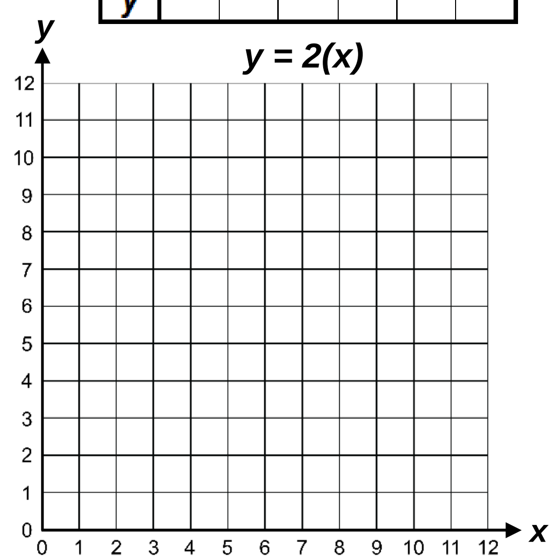
$4\overline{)1.00}$ $5\overline{)1.0}$ $2\overline{)1.0}$ $8\overline{)1.000}$

PART 2: *Application Practice*

8. *Complete* the table. *Graph* and <u>*connect*</u> the points to form a line.

x	0	1	2	3	5	6
y						

y = 2(x)



9. Calculate the **difference** between $^{8}/_{9}$ and $^{2}/_{9}$.

Ⓐ $^{10}/_{18}$ Ⓒ $^{10}/_{8}$
Ⓑ $^{10}/_{9}$ Ⓓ $^{6}/_{9}$

10. *Multiply* the **mixed numbers** by changing them to **improper fractions**.

$2\frac{1}{4} \times 3\frac{0}{2} = \square$

$\frac{\square}{\square} \times \frac{\square}{\square} = \square$

11. Hannah has 7.2 pounds of trail mix for her hiking group. If she splits the trail mix equally in to 8 bags, how many pounds of trail mix are in each bag?

Ⓐ 0.8 lbs. Ⓒ 57.6 lbs.
Ⓑ 0.9 lbs. Ⓓ 56.7 lbs.

12. Complete the table.

How many mm. in:	**mm.**
4 centimeters	
9 centimeters	
3.2 centimeters	

Note: 10 millimeters = 1 centimeter (cm)

PART 3: *Reflection and Conceptual Understanding*

Change the **<u>improper fractions</u>** to *equivalent* **<u>mixed numbers</u>** by *dividing*. The fraction changes to a division problem. *Remember*: *"<u>**R**</u>oll the fraction to the <u>**R**</u>ight!"* Complete.

$\frac{4}{3}$ ↷ $\overline{)\ \ }$ ⇨ $\overline{)\ \ }$ $\frac{4}{3} =$

$\frac{17}{5}$ ↷ $\overline{)\ \ }$ ⇨ $\overline{)\ \ }$ $\frac{17}{5} =$

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"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find *equivalent fractions*.

$\frac{3}{7} = \frac{12}{\square}$ $\qquad \frac{\square}{6} = \frac{1}{2}$

2. Find: **improper fractions**.

$4 = \frac{\square}{\square}$ $\qquad 2\frac{5}{8} = \frac{\square}{\square}$

3. Use (<, > ,=).

0.601 ◯ 0.7

0.05 ◯ 0.5

4. LCM of 4 and 5.

4	5

LCM =

5. Is the fraction closest to **0, ½ or 1 Whole**? *Write* **0, ½ or 1** on the line.

$\frac{1}{10}$ → ___ $\qquad \frac{6}{13}$ → ___ $\qquad \frac{30}{1{,}000}$ → ___ $\qquad \frac{26}{50}$ → ___ $\qquad \frac{5}{6}$ → ___

6. Multiply.

$\frac{6}{1} \times \frac{8}{2} = \square$

$\frac{3}{4} \times \frac{1}{3} = \square$

7. Find **quotients**.

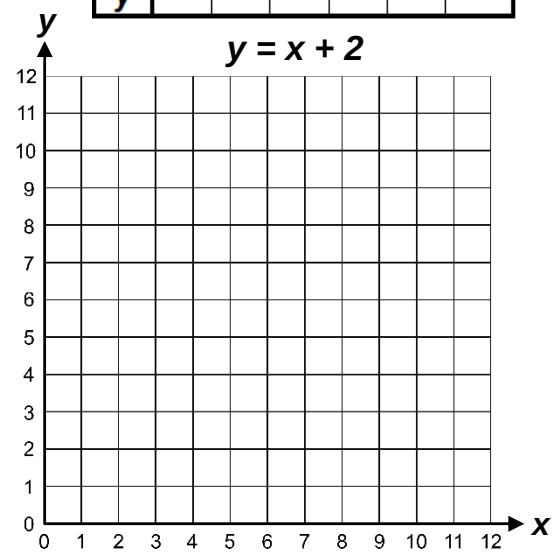
$4\overline{)1.00}$ $\qquad 5\overline{)1.0}$ $\qquad 2\overline{)1.0}$ $\qquad 8\overline{)1.000}$

PART 2: *Application Practice*

8. *Complete* the table. *Graph* and *connect* the points to form a line.

x	0	2	5	6	8	10
y						

y = x + 2



9. Shade so $3/2 = 1\frac{1}{2}$.

$\square\square = \square\square$

$\frac{3}{2} = 1\frac{1}{2}$

10. *Multiply* the **mixed numbers** by changing them to **improper fractions**.

$3\frac{1}{2} \times 4 = \square$

$\frac{\square}{\square} \times \frac{\square}{\square} = \square$

11. Jesus can place a maximum of 5 birds in each bird cage at the pet store. If he has 28 birds, how many cages will he need?

Ⓐ 5 cages Ⓒ 7 cages

Ⓑ 6 cages Ⓓ 8 cages

12. Complete the table.

How many mm. in:	mm.
7 centimeters	
11.6 centimeters	
1 m or 100 cm	

Note: 10 millimeters = 1 centimeter (cm)

PART 3: *Reflection and Conceptual Understanding*

Change the **improper fractions** to *equivalent* **mixed numbers** by *dividing*. The fraction changes to a division problem. *Remember*: *"**R**oll the fraction to the **R**ight!"* Complete.

$\frac{3}{2}$ ⇨ ___ ___ ___ $\qquad \frac{3}{2} =$

$\frac{8}{5}$ ⇨ ___ ___ ___ $\qquad \frac{8}{5} =$

Fall Learning Opportunity **58**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Convert **Improper fractions** to **mixed numbers** by dividing.

$\frac{9}{2}$ ⟌ $\frac{9}{2}$ =

$\frac{5}{3}$ ⟌ $\frac{5}{3}$ =

2. Multiply.

$$\begin{array}{r} 419 \\ \times\ \ 51 \\ \hline \end{array}$$

3. Find quotients.

$5\overline{)1.0}$

$2\overline{)1.0}$

$8\overline{)1.000}$

4. Is the **decimal** closest to **0, ½ or 1 Whole**? *Write* **0, ½ or 1** on the line.

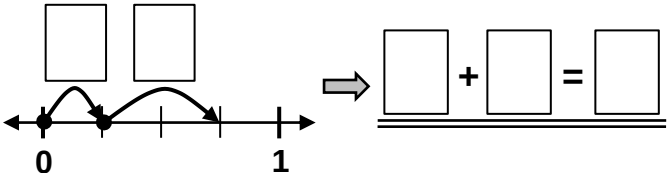
0.08 → ___ **0.91** → ___ **0.4** → ___ **0.823** → ___ **0.013** → ___

5. Is the **proper fraction** closer to **0, ½ or 1 whole**? **Circle** your answer!

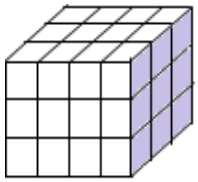
$\frac{2}{10}$	0 ½ 1	$\frac{11}{13}$	0 ½ 1	$\frac{43}{100}$	0 ½ 1	$\frac{8}{10}$	0 ½ 1	$\frac{56}{1{,}000}$	0 ½ 1

PART 2: *Application Practice*

6. Write the *fractional addition equation*.



7. Find the prism's **volume**.



V = ____ units^3

8. *Multiply* the **mixed numbers** by changing them to **improper fractions**.

$5\frac{2}{3}$ x **2** = ☐

☐/☐ x ☐/☐ = ☐

9. Jo used chalk to color $^5/_8$ a sidewalk. What *fraction* of the sidewalk is **not** colored?

Sidewalk

☐ - ☐ = ☐

Ⓐ $\frac{1}{8}$ Ⓑ $\frac{2}{8}$ Ⓒ $\frac{3}{8}$ Ⓓ $\frac{4}{8}$

10. Meat cost $3.15 per pound. What is the cost of four pounds of meat?

$_____

11. Complete the table.

How many **L**iters in:	**Liters**
9 kiloliters (kl)	
3.6 kiloliters (kl)	
5.42 kiloliters (kl)	

Note: 1,000 Liters = 1 kiloliter (kl)

PART 3: *Reflection and Conceptual Understanding*

Box the ***x,y coordinates*** that are a *multiplicative* pattern. *X-out* ***x,y coordinates*** that are an *additive* pattern.

x	y
3	5
7	9

x	y
2	6
4	12

x	y
5	10
7	12

x	y
6	18
9	27

x	y
4	8
9	13

Fall Learning Opportunity 59
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Convert **Improper fractions** to **mixed numbers** by dividing.

$\frac{7}{3} = 2\frac{1}{3}$ $\quad \frac{9}{5} = \square\frac{\square}{\square}$ $\quad \frac{11}{2} = \square\frac{\square}{\square}$

2. Multiply.

$$\begin{array}{r} 0.7 \\ \times\ 0.5 \\ \hline \end{array}$$

3. Find quotients.

$10\overline{)1.0}$ $\qquad$ $4\overline{)1.00}$

4. Is the **decimal** closest to **0, ½ or 1 Whole**? *Write* **0, ½ or 1** on the line.

0.4 → ___ **0.18** → ___ **0.04** → ___ **0.952** → ___ **1.001** → ___

5. Is the **proper fraction** closer to **0, ½ or 1 whole**? **Circle** your answer!

$\frac{5}{100}$	$\frac{26}{31}$	$\frac{79}{100}$	$\frac{5}{9}$	$\frac{450}{1{,}000}$
0	0	0	0	0
½	½	½	½	½
1	1	1	1	1

6. Find the **LCM** of 2 and 4.

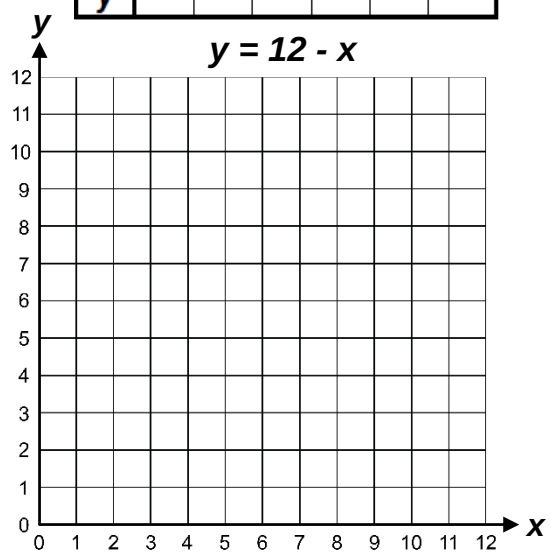
LCM = ____

PART 2: *Application Practice*

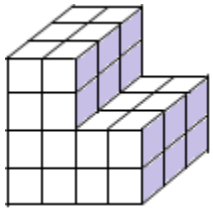
7. *Complete* the table. *Graph* and *connect* the points to form a line.

x	0	2	5	6	8	10
y						

y = 12 - x



8. Find the prism's **volume**.



V = _____ units^3

9. *Multiply* the **mixed numbers** by changing them to **improper fractions**.

$3\frac{2}{3} \times 2\frac{1}{4} = \square$

$\frac{\square}{\square} \times \frac{\square}{\square} = \square$

10. The distance between New York and Chicago is 1,146.8 kilometers (km). What is half this distance?

_____ km

11. Complete the table.

How many **L**iters in:	**Liters**
7.5 kiloliters (kl)	
2 kiloliters (kl)	
9.14 kiloliters (kl)	

Note: 1,000 Liters = 1 kiloliter (kl)

PART 3: *Reflection and Conceptual Understanding*

Box the ***x,y coordinates*** that are a *multiplicative* pattern. *X-out* ***x,y coordinates*** that are an *additive* pattern.

x	y
4	16
6	24

x	y
7	14
8	15

x	y
12	24
15	27

x	y
7	21
10	30

x	y
8	8
10	10

Fall Learning Opportunity 60
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find equivalent **mixed numbers** by dividing.

$\frac{9}{8} = \square\frac{\square}{\square}$ $\frac{17}{7} = \square\frac{\square}{\square}$

2. Multiply.

3.7×5

3. Multiply.

$\frac{3}{5} \times \frac{4}{3} = \square$

4. Find quotients.

$5\overline{)1.0}$

$8\overline{)1.000}$

5. Write the ***whole number*** that the decimal is closest on the line.

2.4 → *2* 6.53 → ___ 9.295 → ___ 1.931 → ___ 6.099 → ___

6. Is the **proper fraction** closer to **0, ½ or 1 whole**? **Circle** your answer!

$\frac{61}{100}$	$\frac{30}{66}$	$\frac{22}{100}$	$\frac{7}{15}$	$\frac{120}{1{,}000}$
0	0	0	0	0
½	½	½	½	½
1	1	1	1	1

7. Find the **LCM** of 2 and 3.

LCM = ____

PART 2: *Application Practice*

8. Add the *proper fractions* with **unlike** denominators.

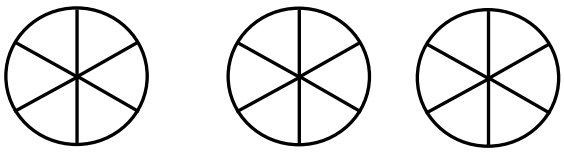
$\frac{1}{2} + \frac{1}{3} = \frac{\square}{\square}$

LCM or ***LCD*** = ____

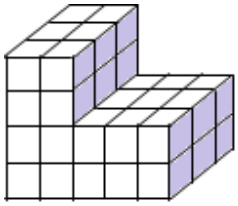
$\left(\frac{1}{2} = \frac{\square}{\square}\right) + \left(\frac{1}{3} = \frac{\square}{\square}\right) = \frac{\square}{\square}$

$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$

shade



9. Find the prism's **volume**.



V = _____ $units^3$

10. Jackson's military unit drinks 250.5 Liters of water per day. What is the total water in kiloliters (kl) that was consumed by the unit over a 10 day period?

Ⓐ 250.5 kl Ⓒ 2.505 kl

Ⓑ 25.05 kl Ⓓ 0.2505 kl

11. Josh walked 10.67 miles. Paul jogged 22.1 miles. How much farther did Paul jog than Josh walk?

_____ miles

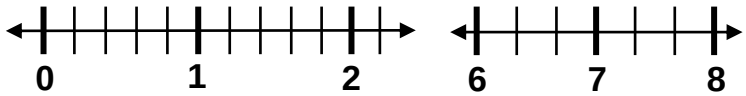
12. Complete the table.

How many kl in:	**kiloliters**
8,000 Liters (L)	
2,500 Liters (L)	
10,100 Liters (L)	

Note: 1,000 Liters = 1 kiloliter (kl)

PART 3: *Reflection and Conceptual Understanding*

A. What is the **denominator** of each number line?
Write the answer on the line below each number line.



1. _____ 2. _____

B. *Write* the equivalent proper fraction or mixed number to each decimal. (Use a '1', if needed.)

1. $0.03 = \frac{\square}{\square}$ 2. $4.7 = \square\frac{\square}{\square}$

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"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find equivalent **mixed numbers**.

$\frac{7}{2} = \square\ \frac{\square}{\square}$ $\quad \frac{13}{8} = \square\ \frac{\square}{\square}$

2. Compare fractions (<, >, =) using **LCD**.

$\frac{\square}{\square} = \frac{1}{3} \bigcirc \frac{1}{4} = \frac{\square}{\square}$

LCD = 12

3. Find: Quotient.

$4\overline{)3.00}$

4. Write the ***whole number*** that the *decimal* is closest.

2.75 → ___ **6.069** → ___ **9.8** → ___ **1.376** → ___

5. *Multiply* the **mixed numbers**.

$2\frac{1}{5} \times 1\frac{2}{3} = \square$

$\frac{\square}{\square} \times \frac{\square}{\square} = \square$

6. Write the ***whole number*** that the *mixed number* is closest.

$4\frac{81}{100}$ → ***5*** $\quad 7\frac{1}{4}$ → ___ $\quad 5\frac{42}{100}$ → ___ $\quad 3\frac{7}{9}$ → ___

PART 2: *Application Practice*

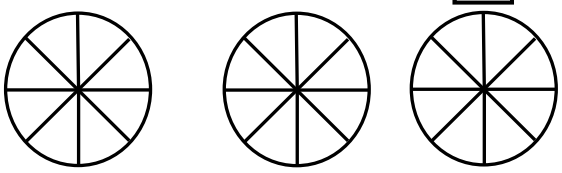
7. Add the *proper fractions* with **unlike** denominators.

$\frac{1}{2} + \frac{1}{8} = \frac{\square}{\square}$ *LCD = ____*

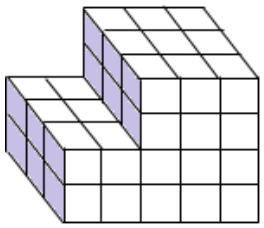
$\left(\frac{1}{2} = \frac{\square}{\square}\right) + \left(\frac{1}{8} = \frac{\square}{\square}\right) = \frac{\square}{\square}$

$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$

shade



8. Find the prism's **volume**.



V = _____ units^3

9. Emily and David went to the store. Emily purchased a 1.5 L bottle of soda and a 1.3 L of water. David bought 2.58 L of apple juice. How many liters (L) of fluids did Emily and David buy at the grocery store?

Ⓐ 5.38 liters Ⓒ 2.68 liters

Ⓑ 2.86 liters Ⓓ 0.538 liters

10. Simplify and solve.

T = [4 x 3] – 2

P = 10 – 3(2 + 1)

T = ☐ **P =** ☐

T + P = ☐

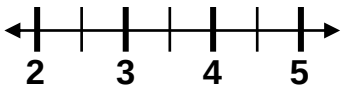
11. Complete the table.

How many kl in:	**kiloliters**
1,250 Liters (L)	
3,900 Liters (L)	
15,000 Liters (L)	

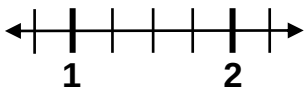
Note: 1,000 Liters = 1 kiloliter (kl)

PART 3: *Reflection and Conceptual Understanding*

A. What is the **denominator** of each number line?
Write the answer on the line below each number line.



① _____



② _____

B. *Write* the equivalent proper fraction or mixed number to each decimal. (Use a '1', if needed.)

① 0.509 = $\frac{\square}{\square}$ $\quad$ ② 9.06 = $\square\ \frac{\square}{\square}$

Fall Learning Opportunity 62
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find: **Mixed Number**.

$\frac{16}{8} = \square\ \frac{\square}{\square}$

2. Compare fractions (<, >, =).

$\frac{\square}{\square} = \frac{2}{3} \bigcirc \frac{3}{4} = \frac{\square}{\square}$

3. Compute quotients.

$10\overline{)9.0}$ $4\overline{)10.0}$ $4\overline{)3.00}$

4. Write the closest ***whole number***.

9.95 → ___ **8.439** → ___ **2.3** → ___

5. Simplify.

$7(9 - 5) - 2 =$ ☐

$3(2 \times 5) + 10 =$ ☐

$(6 + 5) \times (9 - 3) =$ ☐

6. *Multiply*.

$2\frac{1}{5} \times 8 =$ ☐

$\frac{\square}{\square} \times \frac{\square}{\square} =$ ☐

7. Write the closest ***whole number***.

$3\frac{9}{20}$ → ___ $5\frac{3}{8}$ → ___ $8\frac{52}{100}$ → ___

PART 2: *Application Practice*

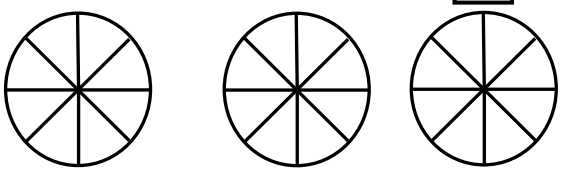
8. Subtract the *proper fractions* with **unlike** denominators.

$\frac{3}{4} - \frac{1}{8} = \frac{\square}{\square}$ *LCD* = ____

$\left(\frac{3}{4} = \frac{\square}{\square}\right) - \left(\frac{1}{8} = \frac{\square}{\square}\right) = \frac{\square}{\square}$

$\frac{\square}{\square} - \frac{\square}{\square} = \frac{\square}{\square}$

shade



9. Complete.

y = 4(x)

x	y
6.5	
9	

Is this an Additive Pattern? **Yes** **No**

10. Jasper measured the width of his tree fort. It was 11 feet 6 inches long. What equation (W) gives his tree fort's width only in inches?

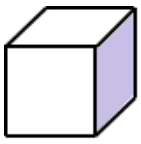
Ⓐ W = (6 x 11) + 12

Ⓑ W = 12 + (6 x 11)

Ⓒ W = 6 + (6 x 12)

Ⓓ W = (11 x 12) + 6

11. The base *area* (**L x W**) of the prism is 20 feet^2. If the **H**eight is 5 feet, what is the ***V****olume* of the prism?



V = ____ **ft^3**

12. Complete the table.

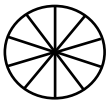
How many Liters in:	**Liters**
500 milliliters (ml)	
1,500 milliliters (ml)	
4,000 milliliters (ml)	

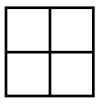
Note: 1,000 milliliters = 1 Liter (L)

PART 3: *Reflection and Conceptual Understanding*

A **fraction** represents **part of a group** or a **division equation** (***R****oll* ***R****ight*). *Show* the fraction meaning of either representation.

$\frac{1}{2}$ → *Division equation* $2\overline{)1.0}$ ✓ → *Part of a group*  ✓

$\frac{1}{10}$ → *Division equation* $10\overline{)1.0}$ → *Part of a group* 

$\frac{2}{4}$ → *Division equation* $4\overline{)2.0}$ → *Part of a group* 

$\frac{1}{5}$ → *Division equation* $5\overline{)1.0}$ → *Part of a group* 

Fall Learning Opportunity 63
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find: **Mixed Number**.

$\frac{23}{7} = \square\ \frac{\square}{\square}$

2. Compare fractions (<, >, =).

$\frac{\square}{\square} = \frac{3}{5} \bigcirc \frac{4}{6} = \frac{\square}{\square}$

3. Divide.

$52\overline{)1{,}768}$

4. Multiply.

$2\frac{1}{2} \times 5\frac{2}{3} = \square$

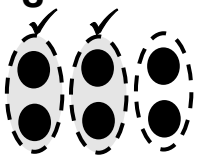
$\frac{\square}{\square} \times \frac{\square}{\square} = \square$

5. Write the closest ***whole number***.

$4\frac{17}{30} \rightarrow$ ___ $1\frac{5}{8} \rightarrow$ ___ $3\frac{42}{100} \rightarrow$ ___ $2\frac{2}{3} \rightarrow$ ___

6. Multiply. Use the model to find $^2/_3$ of 6.

$\frac{2}{3} \times 6 = \frac{2}{3} \times \frac{6}{1} = \frac{\square}{\square} = \square$



$\frac{2}{3}$ → ✓ Select 2 groups

3 → 3 Equal groups

How many dots selected? ☐

7. *Complete*: Base 10 - fraction place value

2.358 = (2 x 1) **+** (3 x $^1/_{10}$) **+** ( ) **+** ( )

0.405 = ( ) **+** ( ) **+** ( )

PART 2: *Application Practice*

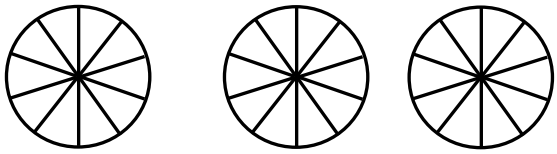
8. Subtract the *proper fractions* with **unlike** denominators.

$\frac{3}{5} - \frac{1}{2} = \frac{\square}{\square}$ *LCD =* ____

$\left(\frac{3}{5} = \frac{\square}{\square}\right) - \left(\frac{1}{2} = \frac{\square}{\square}\right) = \frac{\square}{\square}$

$\frac{\square}{\square} - \frac{\square}{\square} = \frac{\square}{\square}$

shade



9. Move decimal to match.

81.5 x 1,000	**8,150**
81.5 x 10	**815**
81.5 ÷ 10	**81,500**
81.5 x 100	**0.815**
81.5 ÷ 100	**8.15**

10. Angela drank 2.46 liters of water per day for 3 days. She drank 3.14 liters on the 4th day. Which equation, **D**, computes her water intake?

Ⓐ D = (2.46 x 3.14) + 3

Ⓑ D = 3.14 + (3 x 2.46)

Ⓒ D = 2.46 + (3 x 3.14)

Ⓓ D = (3.14 x 4) + 2.46

11. The base *area* (**L x W)** of the prism is 10 meter^2. If the **H**eight is 6 meter, what is the ***V****olume*? *(V = B x H)*

V **=** ____ **meter^3**

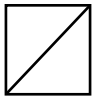
12. Complete the table.

How many Liters in**:**	**Liters**
750 milliliters (ml)	
2,300 milliliters (ml)	
8,500 milliliters (ml)	

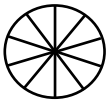
Note: 1,000 milliliters = 1 Liter (L)

PART 3: *Reflection and Conceptual Understanding*

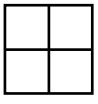
A **fraction** represents **part of a group** or a **division equation** (***R****oll* ***R****ight*). *Show* the fraction meaning of either representation.

$\frac{1}{2}$ → *Part of a group* 

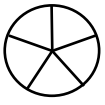
$\frac{1}{2}$ → *Division equation* $2\overline{)1.0}$

$\frac{4}{10}$ → *Part of a group* 

$\frac{4}{10}$ → *Division equation* $10\overline{)4.0}$

$\frac{3}{4}$ → *Part of a group* 

$\frac{3}{4}$ → *Division equation* $4\overline{)3.00}$

$\frac{3}{5}$ → *Part of a group* 

$\frac{3}{5}$ → *Division equation* $5\overline{)3.0}$

Fall Learning Opportunity 64
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Complete: Write the decimals **D**, proper fractions **PF**, and improper fractions **IF**.

D ⇨ ☐ ☐ ☐ ☐ ☐ **1.0** ☐ ☐ ☐ ☐ ☐ ☐ ☐

PF IF ⇨ ☐ ☐ ☐ ☐ ☐ $\frac{10}{10}$ ☐ ☐ ☐ ☐ ☐ ☐ ☐

2. *Complete*: Base 10 - fraction place value.

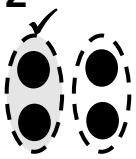
12.79 = ( ) + ( ) + ( ) + ( )

234.5 = ( ) + ( ) + ( ) + ( )

0.701 = ( ) + ( ) + ( )

3. Multiply. Use the model to find $\frac{1}{2}$ of 4.

$\frac{1}{2} \times 4 = \frac{1}{2} \times \frac{4}{1} = \frac{\square}{\square} = \square$



$\frac{1}{2}$ → ✓ Select 1 group

$\frac{1}{2}$ → 2 Equal groups

How many dots selected? ☐

PART 2: *Application Practice*

4. Latrese ate $\frac{2}{3}$ of a pizza. Sam consumed $\frac{1}{4}$ of the same pizza pie. What equation, **E**, represents the fraction of pizza that was eaten?

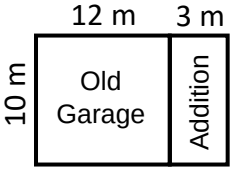
Ⓐ $E = \frac{2}{7} + \frac{1}{7}$ Ⓒ $E = \frac{2}{7} - \frac{1}{7}$

Ⓑ $E = \frac{8}{12} + \frac{3}{12}$ Ⓓ $E = \frac{4}{12} + \frac{3}{12}$

5. Match: Move the decimal.

7.09 x 100	**7,090**
7.09 x 1,000	**709**
7.09 ÷ 10	**0.709**
7.09 x 10	**70.9**

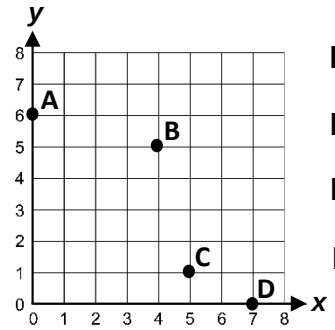
6. Jack wants to build a 3 meter addition (see below) on to his old garage. What will be the **P**erimeter and **A**rea of his new garage when finished?



P = ___m

A = ___m^2

7. Write the (x, y) coordinates of Points A, B, C and D.



(x , y)

Pt. A (__ , __)

Pt. B (__ , __)

Pt. C (__ , __)

Pt. D (__ , __)

8. Jim ran $\frac{3}{4}$ of a mile on Tuesday. On Wednesday, he ran $\frac{5}{6}$ of a mile. Which day did he run more? *Use LCD and compare with (<, >, =)*

$\frac{3}{4} \bigcirc \frac{5}{6}$

9. Complete the table.

How many ml in:	**milliliters**
2 Liters (L)	
0.5 Liter (L)	
3.2 Liters (L)	

Note: 1,000 milliliters = 1 Liter (L)

PART 3: *Reflection and Conceptual Understanding*

A **fraction** represents **part of a group** or a **division equation** (***R**oll **R**ight*). *Show* the fraction meaning of either representation.

$\frac{4}{5}$ → *Part of a group* ◔ → *Division equation* $5\overline{)4.0}$

$\frac{5}{10}$ → *Part of a group* ◔ → *Division equation*)___

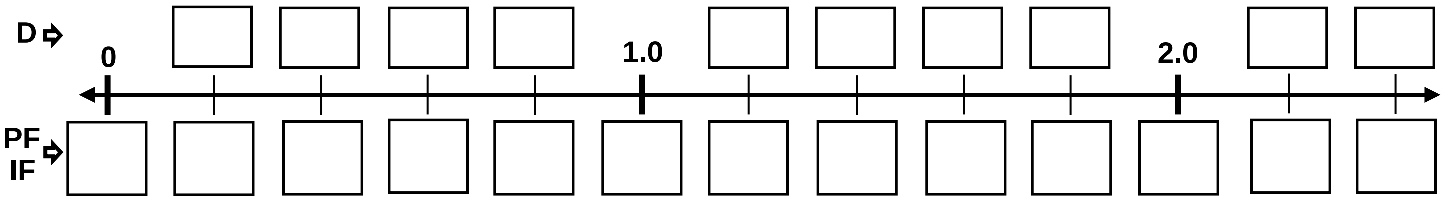
$\frac{1}{4}$ → *Part of a group* ▦ → *Division equation*)___

$\frac{2}{5}$ → *Part of a group* ▥ → *Division equation*)___

Name:_______________

— PART 1: *Numeracy Development* —

1. Write the decimals **D**, proper fractions **PF** and improper fractions **IF**. *(Determine the number line denominator)*



2. *Complete*: Base 10 - fraction place value.

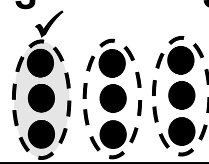
46.8 = ( ) + ( ) + ( )

74.59 = ( ) + ( ) + ( ) + ( )

3.456 = ( ) + ( ) + ( ) + ( )

3. Multiply. Use the model to find $^1/_3$ of 9.

$$\frac{1}{3} \times 9 = \frac{1}{3} \times \frac{9}{1} = \frac{\square}{\square} = \square$$



1 → ✔ Select 1 group

3 → 3 Equal groups

How many dots selected? ☐

— PART 2: *Application Practice* —

4. Jose scaled the rock face of El Capitan. The first day he climbed $^2/_5$ of the mountain. The next day, $^1/_3$. What fraction has Jose climbed?

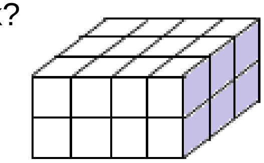
Ⓐ $^{11}/_{15}$ Ⓒ $^1/_{15}$

Ⓑ $^3/_8$ Ⓓ $^{13}/_{15}$

5. Match: Move the decimal.

12.3 x 100	**123.0**
12.3 ÷ 10	**1,230**
12.3 x 10	**0.123**
12.3 ÷ 100	**1.23**

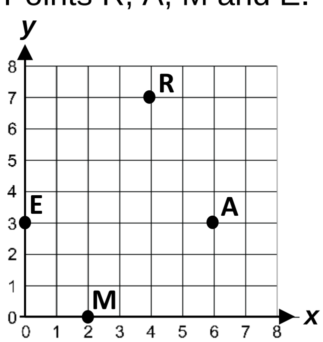
6. Betty stacked boxes and formed a rectangular prism. How many boxes did she stack?



Ⓐ 12 boxes Ⓒ 18 boxes

Ⓑ 24 boxes Ⓓ 15 boxes

7. Write the (x, y) coordinates of Points R, A, M and E.



(x , y)

Pt. R (__ , __)

Pt. A (__ , __)

Pt. M (__ , __)

Pt. E (__ , __)

8. Callie was making berry jam. She filled each jar with 5.1 ounces of jam. She filled 7.7 jars. What is the total amount of jam she made?

Ⓐ 12.8 oz. Ⓒ 39.27 oz.

Ⓑ 38.27 oz. Ⓓ 7.14 oz.

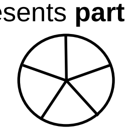
9. Complete the table.

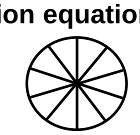
How many ml in:	**milliliters**
5 Liters (L)	
0.750 Liter (L)	
8.6 Liters (L)	

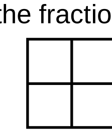
Note: 1,000 milliliters = 1 Liter (L)

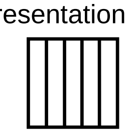
— PART 3: *Reflection and Conceptual Understanding* —

A **fraction** represents **part of a group** or a **division equation** (*R*oll *R*ight). *Show* the fraction meaning of either representation.

$\frac{1}{5}$ ↗ *Part of a group*  ↘ *Division equation* $\overline{)\ \ \_\ .\ \_\ }$

$\frac{7}{10}$ ↗ *Part of a group*  ↘ *Division equation* $\overline{)\ \ \_\ .\ \_\ }$

$\frac{1}{4}$ ↗ *Part of a group*  ↘ *Division equation* $\overline{)\ \ \_\ .\ \_\ \_\ }$

$\frac{5}{5}$ ↗ *Part of a group*  ↘ *Division equation* $\overline{)\ \ \_\ .\ \_\ }$

Fall Learning Opportunity **66**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Write the decimals **D**, proper fractions **PF** and improper fractions **IF**. *(Determine the number line denominator)*

D ⇨ 0 1.0 2.0 3.0

PF IF ⇨

2. Find the **whole number**.

$\frac{1}{4} \times \frac{8}{1} = \frac{\square}{\square} = \square$

$\frac{1}{5} \times 10 = \frac{\square}{\square} = \square$

3. Multiply.

$\frac{2}{5} \times \frac{3}{6} = \square$

$\frac{5}{2} \times \frac{1}{9} = \square$

4. Add/Subtract.

$\frac{1}{5} + \frac{2}{5} = \square$

$\frac{1}{3} - \frac{1}{4} = \square$

5. Match with an arrow.

7 x 1 = ?	Product < 7
7 x $\frac{3}{4}$ = ?	Product > 7
7 x 3 = ?	Product = 7

PART 2: *Application Practice*

6. Katie finished a 5-mile race in $^{7}/_{10}$ of an hour. Liberty ran the same race but crossed the finish line in $^{4}/_{5}$ hour. How much faster was Katie's time?

Ⓐ $^{11}/_{15}$ hour Ⓒ $^{1}/_{10}$ hour

Ⓑ $^{3}/_{5}$ hour Ⓓ $^{15}/_{10}$ hour

7. Match: Move the decimal.

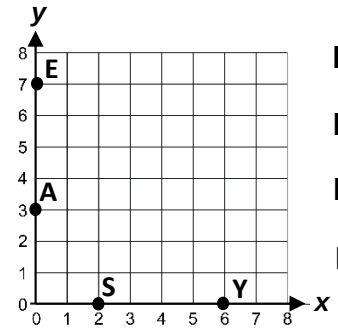
56.7 x 100	**5.67**
56.7 ÷ 10	**567**
56.7 x 10	**0.567**
56.7 ÷ 100	**5,670**

8. Jettra mailed four packages to Seattle. Each package had a mass of 4.25 kg. The mailing cost was 3 dollars per kilogram (kg). How much money did it cost her to mail her four packages to Seattle?

Ⓐ $ 7.25 Ⓒ $ 12.75

Ⓑ $ 51.00 Ⓓ $ 60.00

9. Write the (x, y) coordinates of Points E, A, S and Y.



(x , y)

Pt. E (__ , __)

Pt. A (__ , __)

Pt. S (__ , __)

Pt. Y (__ , __)

10. Isaac bought 10 apples for $4.99 at the store. He gave $^{1}/_{5}$ of the apples to his mother. How many apples did he give his mother?

Ⓐ 1 apple Ⓒ 3 apples

Ⓑ 2 apples Ⓓ 4 apples

11. Complete the table.

How many grams in:	**grams**
5 kilograms (kg)	
0.5 kilograms (kg)	
50 kilograms (kg)	

Note: 1,000 grams = 1 kilogram (kg)

PART 3: *Reflection and Conceptual Understanding*

A **fraction** represents **part of a group** or a **division equation** (***R**oll **R**ight*). *Show* the fraction meaning of either representation.

$\frac{3}{5}$ → *Part of a group* → *Division equation*

$\frac{9}{10}$ → *Part of a group* → *Division equation*

$\frac{3}{4}$ → *Part of a group* → *Division equation*

$\frac{1}{8}$ → *Part of a group* → *Division equation* $8\overline{)1.000}$

Fall Learning Opportunity 67
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Write the decimals **D**, proper fractions **PF** and improper fractions **IF**. *(Determine the number line <u>denominator</u>)*

D ➪ 0 ☐ 1.0 ☐ 2.0 ☐ 3.0 ☐ 4.0 ☐ 5.0 ☐ 6.0

PF IF ➪ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

2. Find the **whole number**.

$\frac{3}{4} \times 8 = \frac{\square}{\square} = \square$

$\frac{2}{5} \times 15 = \frac{\square}{\square} = \square$

3. Multiply.

$\frac{5}{3} \times \frac{1}{2} = \square$

$\frac{6}{7} \times \frac{4}{3} = \square$

4. Add/Subtract.

$\frac{3}{6} + \frac{5}{6} = \square$

$\frac{5}{8} - \frac{2}{4} = \square$

5. Match with an arrow.

9 x 1 = ?	Product < 9
$9 \times \frac{1}{4} = ?$	Product > 9
9 x 2 = ?	Product = 9

PART 2: *Application Practice*

6. Adding or subtracting *<u>mixed numbers</u>* – ***Change*** the mixed numbers to improper fractions.

Complete

$1\frac{1}{2} + 2\frac{1}{3} = \frac{\square}{\square}$

$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$

LCD = ____

$\left(\frac{3}{2} = \frac{\square}{\square}\right) + \left(\frac{7}{3} = \frac{\square}{\square}\right) = \frac{\square}{\square}$

7. Match: Move the decimal.

809 x 100	**8.09**
809 ÷ 10	**8,090**
809 x 10	**80,900**
809 ÷ 100	**80.9**

8. Ron's Boy Scout troop went camping for the weekend. If 179 people attended the trip and only four people could ride in a vehicle, how many cars were needed for the trip?

Ⓐ 43 cars Ⓒ 45 cars

Ⓑ 44 cars Ⓓ 46 cars

9. Skyway is a small movie theatre. It seats only 25 children. The theatre is $^4/_5$ full. How many kids are sitting in the Skyway theatre?

Ⓐ 10 Ⓒ 20

Ⓑ 15 Ⓓ 5

10. Complete the table.

How many grams in:	**grams**
3.2 kilograms (kg)	
0.75 kilograms (kg)	
10 kilograms (kg)	

Note: 1,000 grams = 1 kilogram (kg)

PART 3: *Reflection and Conceptual Understanding*

Convert proper fractions **PF** to a decimals **D** and improper fractions **IF** to a mixed number **MN** by dividing – "***R**oll to the **R**ight.*"

PF to Decimal

$\frac{2}{5}$ ⟌ .–

PF to Decimal

$\frac{4}{10}$ ⟌ .–

IF to MN

$\frac{8}{5}$ ⟌ –

IF to MN

$\frac{5}{2}$ ⟌ –

PART 1: *Numeracy Development*

1. Write the decimals **D**, proper fractions **PF** and improper fractions **IF**. *(Determine the number line denominator)*

D ⇨ 0 [ ] [ ] [ ] 1.0 [ ] [ ] [ ] 2.0 [ ] [ ] [ ] 3.0

Number line: 0 — Ⓐ — 1.0 — 2.0 — Ⓑ — 3.0

PF/IF ⇨ [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

2. Find the **whole number**.

$\frac{1}{2} \times 16 = \frac{\square}{\square} = \square$

$\frac{2}{7} \times 21 = \frac{\square}{\square} = \square$

3. Multiply.

$2\frac{1}{2} \times 1\frac{2}{3} = \square$

$\frac{\square}{\square} \times \frac{\square}{\square} = \square$

4. Add/Subtract.

$3.4 + 5 = \square$

$\frac{8}{9} - \frac{2}{3} = \square$

5. Complete the equalities for Pt. **A** and Pt. **B** on **1.)** above.

Pt. Ⓐ ⇨ [ ] = [ ]

Pt. Ⓑ ⇨ [ ] = [ ]

PART 2: *Application Practice*

6. Adding or subtracting *mixed numbers* – ***Change*** the mixed numbers to improper fractions.

Complete

$3\frac{1}{3} + 4\frac{0}{4} = \frac{\square}{\square}$

$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$

LCD = _____

$\left(\frac{\square}{\square} = \frac{\square}{\square}\right) + \left(\frac{\square}{\square} = \frac{\square}{\square}\right) = \frac{\square}{\square}$

7. What is the fraction of composite numbers?

15 25 2 16
17 21 33

Ⓐ $^3/_7$ Ⓒ $^5/_7$

Ⓑ $^4/_7$ Ⓓ $^6/_7$

8. Martha canned beets. She was able to put 14.8 ounces (oz.) in each of 8 cans. She also put 4.6 oz. in each of 5 smaller cans. What is the total amount of beets Martha canned in ounces?

Ⓐ 141.4 oz. Ⓒ 126.8 oz.

Ⓑ 118.4 oz. Ⓓ 116.4 oz.

9. Angel used $^9/_{16}$ lbs. of sugar to bake muffins. He used ½ pound of sugar to make tarts. How much more sugar did Angel use making muffins than tarts?

Ⓐ $^{10}/_{18}$ Ⓒ $^1/_{16}$

Ⓑ $^8/_{16}$ Ⓓ $^{17}/_{16}$

10. Complete the table.

How many grams in:	**grams**
7 kilograms (kg)	
0.25 kilograms (kg)	
9.342 kilograms (kg)	

Note: 1,000 grams = 1 kilogram (kg)

PART 3: *Reflection and Conceptual Understanding*

Convert proper fractions **PF** to a decimals **D** and improper fractions **IF** to a mixed number **MN** by dividing – "***R****oll to the* ***R****ight.*"

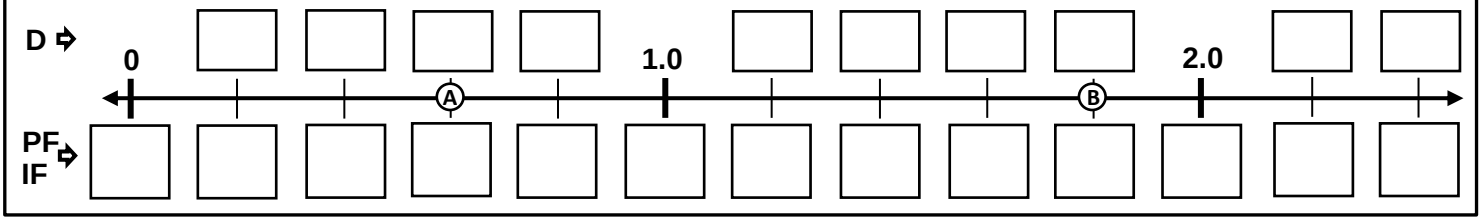
PF to Decimal	PF to Decimal	IF to MN	IF to MN
$\frac{1}{4}$ ↷ $\overline{)\ \_\ .\ \_\ \_}$	$\frac{1}{2}$ ↷	$\frac{10}{5}$ ↷	$\frac{7}{4}$ ↷

Fall Learning Opportunity 69
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Write the decimals **D**, proper fractions **PF** and improper fractions **IF**. *(Determine the number line denominator)*



2. Find the **whole number**.

$\frac{3}{7} \times 14 = \frac{\square}{\square} = \square$

$\frac{2}{9} \times 45 = \frac{\square}{\square} = \square$

3. Make 10.0

8.3 ⇨ ☐

4.5 ⇨ ☐

9.8 ⇨ ☐

4. Solve.

3(9 - 7) = ☐

25 - (3 x 7) = ☐

8(10 ÷ 2) - 15 = ☐

5. Complete the equalities for Pt. **A** and Pt. **B** on **1.)** above**.**

Pt. (A) ⇨ ☐ = ☐

Pt. (B) ⇨ ☐ = ☐

PART 2: *Application Practice*

6. Adding or subtracting *mixed numbers* – ***Change*** the mixed numbers to improper fractions.

Complete

$2\frac{2}{4} + 5\frac{1}{6} = \frac{\square}{\square}$

$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$

LCD = ____

$\left(\frac{\square}{\square} = \frac{\square}{\square}\right) + \left(\frac{\square}{\square} = \frac{\square}{\square}\right) = \frac{\square}{\square}$

7. Find the product of 32 and 45.

☐

Is the product a composite or prime number?

_____

8. The distance from Miami to Atlanta is 663.9 miles. The distance from Atlanta to St. Louis is 554.92 miles. The distance from St. Louis to Chicago is 297 miles. What is the mileage distance from Miami to Chicago through Atlanta and St. Louis?

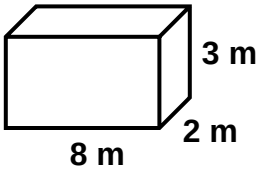
☐ **miles**

9. The market sold 10 apples for 2 dollars. Jeff bought 30 apples. He gave $^2/_3$ of the apples to his teacher and kept the rest. How many apples did he keep?

Ⓐ 20 Ⓒ 15

Ⓑ 10 Ⓓ 12

10. How many cubic meters (m^3) in the prism below?



____ m^3

PART 3: *Reflection and Conceptual Understanding*

Convert proper fractions **PF** to a decimals **D** and improper fractions **IF** to a mixed number **MN** by dividing – "***R**oll to the **R**ight."*

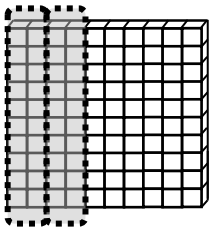
PF to Decimal	PF to Decimal	IF to MN	IF to MN
$\frac{2}{4}$ ↘	$\frac{4}{5}$ ↘	$\frac{17}{7}$ ↘	$\frac{7}{7}$ ↘

Fall Learning Opportunity **70**
"Layering a Sound Foundation"

Name: _____

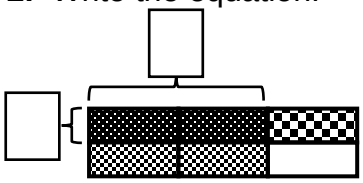
PART 1: *Numeracy Development*

1. Choose the division equation.



Ⓐ 0.40 ÷ 2 = 0.10
Ⓑ 0.40 ÷ 2 = 0.20
Ⓒ 0.40 ÷ 2 = 0.15
Ⓓ 0.40 ÷ 4 = 0.10

2. Write the equation.



x = _____

3. Make 10.0

1.9 ⇨ ☐
7.8 ⇨ ☐
4.1 ⇨ ☐

4. Divide.

$41\overline{)4{,}305}$

5. Add using an LCD.

$1\frac{1}{4} + 3\frac{1}{2} = \frac{\square}{\square}$

6. List **factors**. Circle **C** or **P**?

20: { , , , , , } **C P**

21: { , , , } **C P**

23: { , } **C P**

7. Expand each in ***decimal form***.

3.42 = ***3 + 0.4 + 0.02***

8.095 = _____

2,032.4 = _____

PART 2: *Application Practice*

8. Solve Ms. Mabel's 5th grade math computation puzzles.

Sum 12 and 6. Double. Divide by 9 = ___

Halve 30. Times 4. Divide by 5 = ___

Subtract $^1/_4$ from ¾. Times 2 = ___

9. Find the difference of 1,234 and 509.

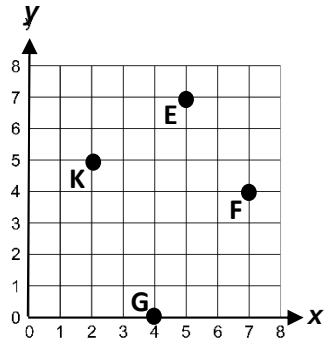
☐

Is the difference a composite or prime number? _____

10. Cameron is constructing a door that matches the size of the window. The window has a perimeter of 3 $^1/_5$ feet. The door is 1 $^1/_2$ ***times*** as big as the window. What is the perimeter of the door?

Ⓐ $^{48}/_7$ Ⓒ $^{17}/_{10}$
Ⓑ $^{48}/_{10}$ Ⓓ $^{47}/_{10}$

11. What are the *x,y* coordinates located 2 spaces above Pt. **F**?

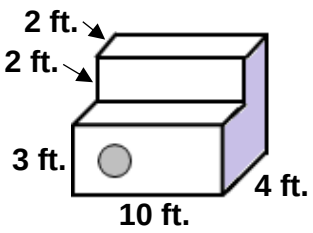


Ⓐ *(7 , 7)*
Ⓑ *(6 , 7)*
Ⓒ *(7 , 6)*
Ⓓ *(7 , 5)*

12. Six-tenths of the cast are ready to go on stage. The other $^4/_{10}$ of the cast are not. If there are a total of 20 cast members, how many actors are prepared?

Ⓐ 10 Ⓒ 8
Ⓑ 15 Ⓓ 12

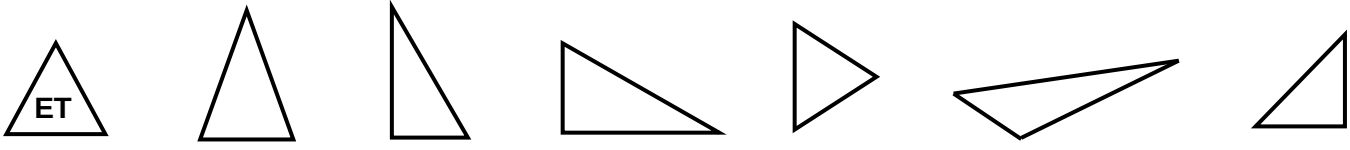
13. Mr. Gomez built an L-shaped home for his ferret farm. Find the volume of the ferret's home.



Ⓐ 120 ft³
Ⓑ 400 ft³
Ⓒ 160 ft³
Ⓓ 200 ft³

PART 3: *Reflection and Conceptual Understanding*

Identify by *writing the letters* of each triangle: *Equi*lateral Triangle (**ET**), *Iso*sceles Triangle (**IT**) and Scalene Triangles (**ST**).
(all sides equal) *(2 sides equal)* *(no sides equal)*



Fall Learning Opportunity 71
"Layering a Sound Foundation"

Name: _____

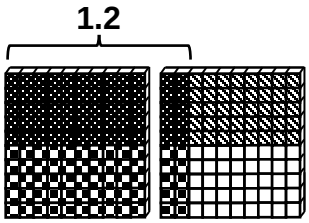
PART 1: *Numeracy Development*

1. Add/Subtract with LCD.

$1\frac{2}{3} + 2\frac{1}{2} = \frac{\square}{\square}$

$3\frac{1}{5} - 1\frac{2}{3} = \frac{\square}{\square}$

2. Use the model to find the product.



x $\frac{\square}{\square}$

3. Make 10.0

5.2 ⇨ ☐

9.3 ⇨ ☐

3.6 ⇨ ☐

4. Multiply.

$$\begin{array}{r} 354 \\ \times\ 12 \\ \hline \end{array}$$

5. List **factors**. Circle **C** or **P**?

12: { , , , , , } **C P**

13: { , } **C P**

15: { , , , } **C P**

6. Expand each in ***fraction form***.

42.42 = ***40 + 2 + $^{4}/_{10}$ + $^{2}/_{100}$***

4.302 = _____

535.7 = _____

PART 2: *Application Practice*

7. Can you solve Grade 5 challenging math computation instructions?

Divide 45 by 15. Times by 0.5 = ___

Halve 120. Divide by 5. Add 10.1 = ___

Subtract $^{1}/_{2}$ from 1. Times 4 = ___

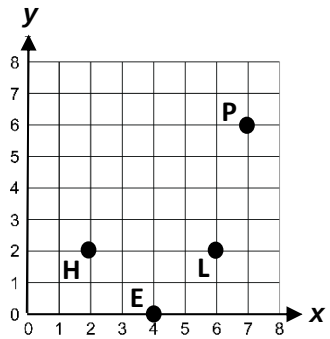
8. Which decimal rounded to nearest hundredth is equal to $^{48}/_{100}$?

Ⓐ 0.474 Ⓒ 0.484

Ⓑ 0.485 Ⓓ 0.492

9. Victor is making pancakes at his guesthouse in Michigan. The recipe calls for 3 ¼ cups flour, 2 eggs and 4 ½ cups of blueberries. However, he must triple the recipe to account for all the guests. How many cups of berries will he need if the recipe is tripled? ☐

10. What are the *x,y* coordinates located 3 spaces above and one space to the left of Pt. **L**.



Ⓐ *(6 , 5)*

Ⓑ *(5 , 6)*

Ⓒ *(5 , 5)*

Ⓓ *(6 , 6)*

11. Kim wanted her father to give her a challenging math problem. Her father said, "Find the <u>*sum*</u> of ($^{2}/_{3}$ of 6) and ($^{1}/_{2}$ of 10)." What answer should Kim give her father?

Ⓐ 1 Ⓒ 10

Ⓑ 9 Ⓓ 20

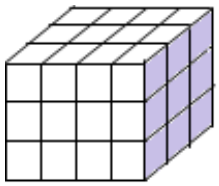
12. The manager told Luis to stack boxes in the storeroom. Luis stacked the 1 m^3 boxes into the prism shown below. How many boxes did Luis stack?

Ⓐ 24 boxes

Ⓑ 20 boxes

Ⓒ 30 boxes

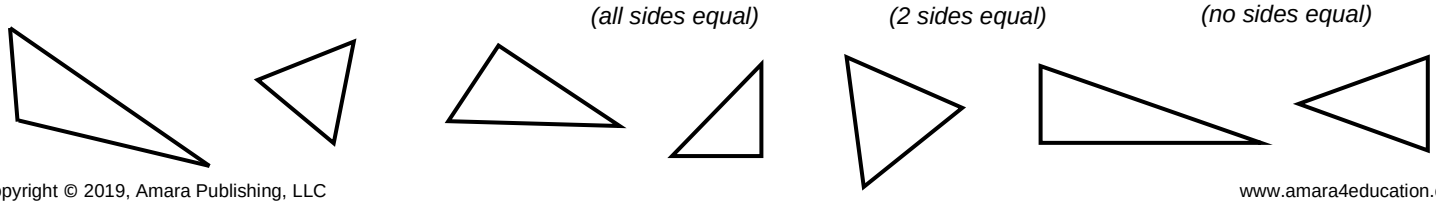
Ⓓ 36 boxes



PART 3: *Reflection and Conceptual Understanding*

Identify by <u>*writing the letters*</u> of each triangle: *Equi*lateral Triangle (**ET**), *Iso*sceles Triangle (**IT**) and Scalene Triangle (**ST**).

(all sides equal) *(2 sides equal)* *(no sides equal)*



Fall Learning Opportunity 72
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find the missing number - *equivalent fractions*.

$\frac{5}{3} = \frac{10}{\square}$ $\quad \frac{3}{\square} = \frac{21}{28}$ $\quad \frac{1}{3} = \frac{6}{\square}$

$\frac{1}{2} = \frac{6}{\square}$ $\quad \frac{6}{\square} = \frac{18}{36}$ $\quad \frac{4}{\square} = \frac{40}{50}$

2. Round to underlined digit.

0.0<u>8</u>6 → ____ 0.<u>4</u>44 → ____

0.6<u>0</u>9 → ____ 0.4<u>5</u>4 → ____

0.<u>5</u>42 → ____ 0.<u>3</u>79 → ____

3. Multiply.

$$\begin{array}{r} 54 \\ \times\ 32 \\ \hline \end{array}$$

4. Make 1.00

0.74 ⇨ ☐

0.3 ⇨ ☐

0.67 ⇨ ☐

5. List **factors**. Circle **C** or **P**?

18: { , , , , , } **C P**

19: { , } **C P**

14: { , , , } **C P**

6. Expand in Base 10 ***fraction form***.

8.42 = ***(8 x 1) + (4 x $^1/_{10}$) + (2 x $^1/_{100}$)***

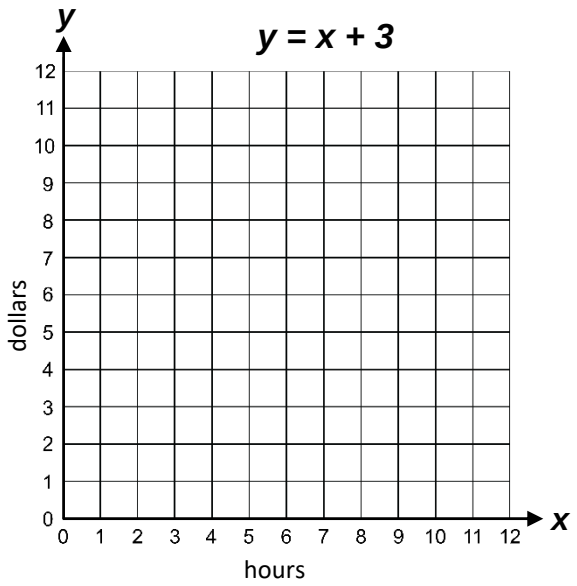
15.3 = _____

0.795 = _____

PART 2: *Application Practice*

7. *Complete* the table. *Graph* the points. ***Connect*** the points forming a straight line.

x	0	2	4	5	7	9
y						



8. On the graph **y = x + 3** line in problem 7, the **y axis** represents the amount of *money* ($) earned for mowing lawns, and the **x axis** represents the *hours* worked.

a.) How many dollars would a person make if they worked 8 hours mowing lawns? ___ **dollars**

b.) If a person earned 6 dollars mowing lawns, how many hours did they work? ___ **hours**

9. Use the table to answer and solve the questions.

Person	Mass (kg)
Mr. Gordo	147.75
Mr. Hulk	120
Mr. Thin	?
Mr. Athletic	94.5

Mr. Thin's mass is the sum of Mr. Gordo and Mr. Hulk's mass divided by 3. What is Mr. Thin's mass? _____

How much more mass is Mr. Hulk than Mr. Athletic? _____

PART 3: *Reflection and Conceptual Understanding*

A. Match with an arrow : The triangle and its description.

Equilateral Triangle	Two sides equal
Isosceles Triangle	All sides not equal
Scalene Triangle	All sides equal

B. Circle 'True' or 'False' to the statements below.

- Triangles may have perpendicular sides. **True False**
- Triangles may have parallel sides. **True False**

Fall Learning Opportunity 73
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find the missing number - *equivalent fractions*.

$\frac{25}{10} = \frac{5}{\square}$ $\quad \frac{\square}{8} = \frac{24}{27}$ $\quad \frac{3}{\square} = \frac{33}{77}$

$\frac{3}{2} = \frac{9}{\square}$ $\quad \frac{2}{\square} = \frac{12}{18}$ $\quad \frac{1}{5} = \frac{6}{\square}$

2. Find equivalencies.

$0.5 = \frac{\square}{\square}$ $\quad 8.4 = \square\ \frac{\square}{\square}$

$0.307 = \frac{\square}{\square}$

3. Multiply.

$$\begin{array}{r} 5.4 \\ \times\ 0.2 \\ \hline \end{array}$$

4. Make 1.00

0.17 ⇨ ☐

0.8 ⇨ ☐

0.02 ⇨ ☐

5. Convert to Mixed Numbers.

$\frac{9}{5} = \square\ \frac{\square}{\square}$ $\quad \frac{7}{2} = \square\ \frac{\square}{\square}$

6. Expand in Base 10 ***fraction form***.

3.09 = ***(3 x 1) + (0 x $^1/_{10}$) + ( )*** _____

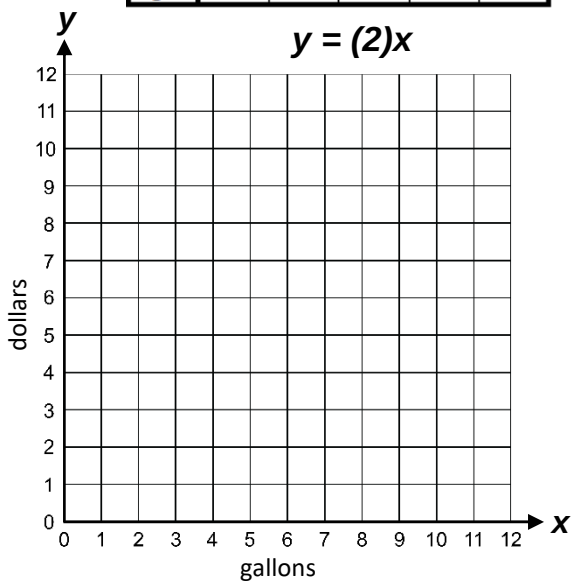
57.1 = ( ) + ( ) + ( ) _____

0.098 = _____

PART 2: *Application Practice*

7. *Complete* the table. *Graph* the points. ***Connect*** the points forming a straight line.

x	0	2	3	4	5
y					



8. On the graph **y = 2(x)** line in problem 7, the **y axis** represents the dollars spent for a gallon of gas, and the **x axis** represents the *gallons* he used.

a.) How much money would Jef spend if uses 1 gallon?

___ **dollars**

b.) If Jef spends 12 dollars, how many gallons will he get?

___ **gallons**

9. *Circle letter* for Multiplicative (**M**) *or* Additive (**A**) pattern.

Pattern 1		Pattern 2		Pattern 3		Pattern 4	
x	*y*	*x*	*y*	*x*	*y*	*x*	*y*
0	3	4	4	10	20	15	28
2	5	6	6	15	30	20	33
4	7	10	10	21	42	46	59
M	**A**	**M**	**A**	**M**	**A**	**M**	**A**

PART 3: *Reflection and Conceptual Understanding*

A. Identify as a parallelogram, square, rectangle or rhombus.

_____ _____ _____ _____

B. Circle 'True' or 'False' to the statements below.

- All of the polygons in Part **A** are quadrilaterals.
  True **False**
- All of the polygons in Part **A** are parallelograms.
  True **False**

Fall Learning Opportunity 74
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find the missing numbers - *equivalent fractions*.

$\frac{5}{10} \overset{\div 5}{=} \frac{\square}{\square}$ $\frac{3}{15} \overset{\div 3}{=} \frac{\square}{\square}$ $\frac{4}{16} \overset{\div 4}{=} \frac{\square}{\square}$

$\frac{6}{9} \overset{\div 3}{=} \frac{\square}{\square}$ $\frac{2}{12} \overset{\div 2}{=} \frac{\square}{\square}$ $\frac{6}{18} \overset{\div 3}{=} \frac{\square}{\square}$

2. Find equivalencies.

$0.25 = \frac{\square}{\square}$ $8.4 = \square \frac{\square}{\square}$

$4.318 = \square \frac{\square}{\square}$

3. Divide.

$9\overline{)36.9}$

4. Make 1.00

0.31 ⇨ ☐

0.05 ⇨ ☐

5. Convert to Mixed Numbers.

$\frac{11}{3} = \square \frac{\square}{\square}$ $\frac{9}{8} = \square \frac{\square}{\square}$

6. Multiply.

$\frac{2}{3} \times \frac{1}{2} = \frac{\square}{\square}$

$\frac{1}{2} \times 8 = \frac{\square}{\square} = \square$

7. Add/Subtract.

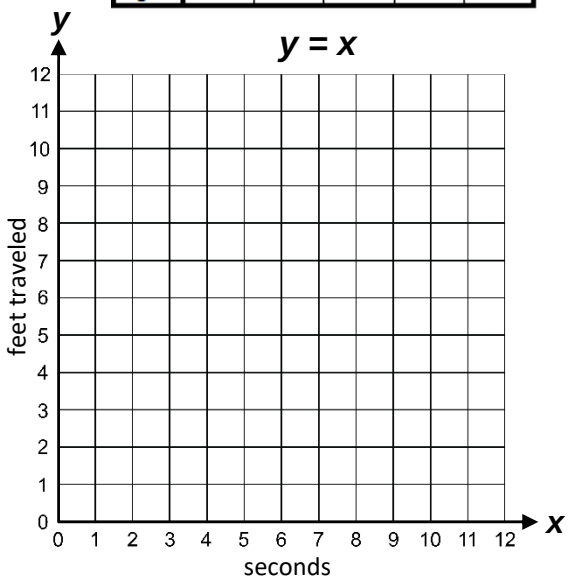
$\frac{1}{4} + \frac{2}{4} = \frac{\square}{\square}$

$\frac{5}{8} - \frac{1}{2} = \frac{\square}{\square}$

PART 2: *Application Practice*

8. *Complete* the table. *Graph* the points. ***Connect*** the points forming a straight line.

x	0	2	3	4	5
y					

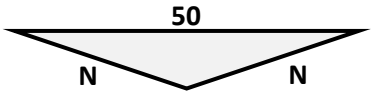


9. On the graph **y = x** in problem 7, the **y axis** represents the feet a tossed marble has traveled. The **x axis** is the time in seconds after the marble was thrown.

a.) How many *feet* has the marble traveled in 8 seconds? ___ **feet**

b.) How many *seconds* has it taken the marble to travel a distance of 6 feet? ___ **seconds**

10. An architect designed an *isosceles* triangular garden. If the perimeter is 90 feet, what is the length of a missing side, **N**?



Ⓐ N = 10 feet Ⓒ N = 20 feet

Ⓑ N = 15 feet Ⓓ N = 25 feet

11. The *base* of a prism is shown below. If the **V**olume is 30 cubic inches, what is the prism's **H**eight?

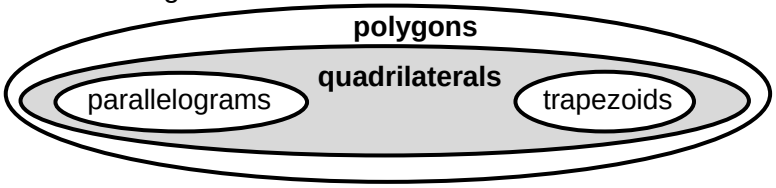
W = 5 in.

L = 3 in.

Height = ____ inches

PART 3: *Reflection and Conceptual Understanding*

Use the diagram to answer the math "truthfulness" of the statements to the right. Circle 'True' or 'False'.



- All trapezoids are quadrilaterals. **True** **False**
- All parallelograms are trapezoids. **True** **False**
- All quadrilaterals are polygons. **True** **False**

PART 1: *Numeracy Development*

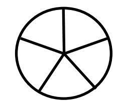
1. Find the missing numbers - *equivalent fractions*.

$\frac{15}{25} \frac{\div 5}{\div 5} = \frac{\square}{\square}$ $\frac{4}{24} \frac{\div 4}{\div 4} = \frac{\square}{\square}$ $\frac{8}{16} \frac{\div 2}{\div 2} = \frac{\square}{\square}$

$\frac{14}{21} \frac{\div 7}{\div 7} = \frac{\square}{\square}$ $\frac{9}{18} \frac{\div 9}{\div 9} = \frac{\square}{\square}$ $\frac{8}{48} \frac{\div 8}{\div 8} = \frac{\square}{\square}$

2. A fraction is 2 things. *Complete.*

$\frac{1}{5}$ → *Part of a group*



$\frac{1}{5}$ → *Division equation* $\overline{)\ \ \ }$

"Roll to Right."

3. Divide.

$7\overline{)22.4}$

4. Find Rule.

$y = \square(x)$

x = 4; y = 12

x = 7; y = 21

5. Find equivalent mixed numbers.

$\frac{11}{5}$ ↷ $\overline{)\ \ }$ $\frac{17}{16}$ ↷ $\overline{)\ \ }$

"Roll to Right." *"Roll to Right."*

6. Multiply.

$\frac{9}{3} \times \frac{5}{7} = \square$

$\frac{3}{4} \times 8 = \frac{\square}{\square} = \square$

7. Add/Subtract.

$\frac{1}{2} + \frac{1}{3} = \square$

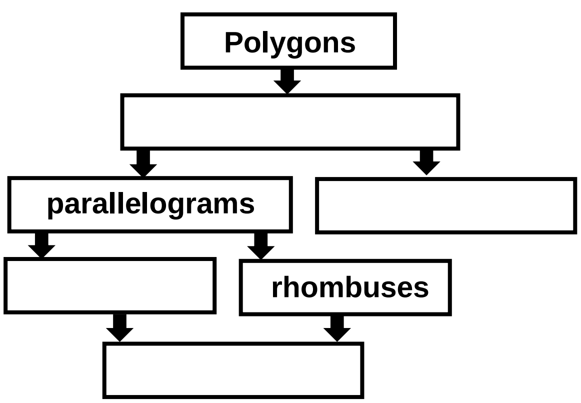
$\frac{4}{9} - \frac{1}{3} = \square$

PART 2: *Application Practice*

8. Complete. Use the Word Bank.

Word Bank

scalene		circles
isosceles	squares	trapezoids
rectangles	quadrilateral	equilateral



A triangle with **3** *equal* **sides** is called an ______________. A triangle with **2** *equal* **sides** is an ______________ .

9. John's friends asked him to buy some items at the store. John bought candy for $ 3.56 and some toys for $ 4.18. John and his 2 friends split the cost equally. How much did each of the 3 boys pay?

$

10. Jane bought 5 ¾ feet of ribbon to make bows for holiday presents. If she used 1 ½ feet, how much ribbon is left?

Ⓐ $^{17}/_4$ Ⓒ $^{18}/_4$

Ⓑ $^{29}/_4$ Ⓓ $^{16}/_4$

11. Laura ate 7/16 of a pizza. Jim consumed 5/8 of a pizza. How much total pizza was eaten, **and** who ate more?

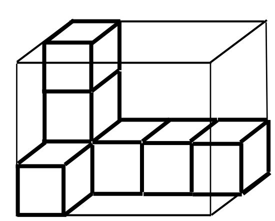
Ⓐ $^{3}/_{16}$ and Laura ate more

Ⓑ $^{3}/_{16}$ and Jim ate more

Ⓒ 1 $^{1}/_{16}$ and Laura ate more

Ⓓ 1 $^{1}/_{16}$ and Jim ate more

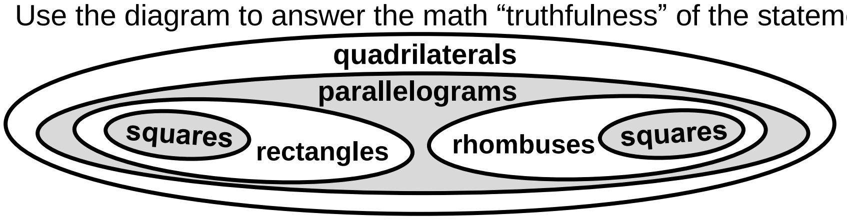
12. Find the Volume of the prism below.



V = ____ units^3

PART 3: *Reflection and Conceptual Understanding*

Use the diagram to answer the math "truthfulness" of the statements to the right. Circle 'True' or 'False'.



- Squares are rhombuses. **True** **False**
- Squares are rectangles. **True** **False**
- Rhombuses are rectangles. **True** **False**
- Rectangles are squares. **True** **False**

Fall Learning Opportunity 76
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Complete: Write the decimals **D**, proper **PF** and improper fractions **IF**, and mixed numbers **MN**.

D ⇨ ☐ ☐ ☐ ☐ ☐ **1.0** ☐ ☐ ☐ ☐ ☐ ☐ ☐

PF / IF ⇨ ☐ ☐ ☐ ☐ ☐ $\frac{10}{10}$ ☐ ☐ ☐ ☐ ☐ ☐ ☐

MN ⇨ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

2. Find - *equivalent fractions*.

$\frac{21}{35} \div 7 = \frac{\square}{\square}$ $\frac{12}{24} \div 6 = \frac{\square}{\square}$

3. A fraction is 2 things. *Complete.*

$\frac{7}{10}$ ➡ *Part of a group* ☐ ➡ *Division equation* ☐ ÷ ☐

*"**R**oll to **R**ight."*

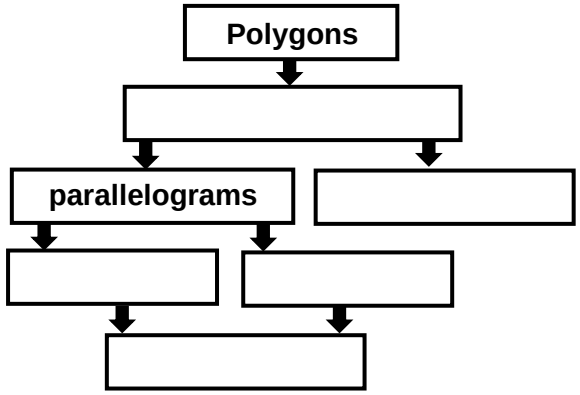
4. Find mixed numbers.

$\frac{9}{4}$ ↘ ☐ ☐ $\frac{13}{10}$ ↘ ☐ ☐

PART 2: *Application Practice*

5. Complete. Use the Word Bank.

	Word Bank	
scalene		rhombuses
isosceles	squares	trapezoids
rectangles	quadrilateral	equilateral



A polygon with 3 unequal **sides** is called a _____ triangle. A polygon with 2 equal sides is called an _____ triangle.

6. Luis is making a recipe for lasagna. The recipe calls for ¾ cup of cheese. But, he only wants to make ½ of the lasagna recipe. **Shade** the diagram and **write** the equation for amount of cheese he will need.

$^3/_4$

$^1/_2$

x = _____

7. Janet had 3 (**x, y**) **coordinates**. They are (4, 5) ; (6, 7) ; (9, 10). What is the rule that relates the three **x, y coordinates**?

Ⓐ y = 3x Ⓒ y = x - 1

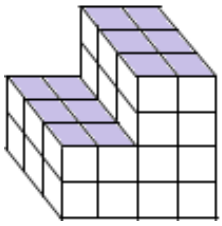
Ⓑ y = 4x Ⓓ y = x + 1

8. The teacher said, *"Pick the number that is between 2,089,043 and 1,984,745."*

Ⓐ 1,982,444 Ⓒ 2,807,007

Ⓑ 1,999,999 Ⓓ 2,090,752

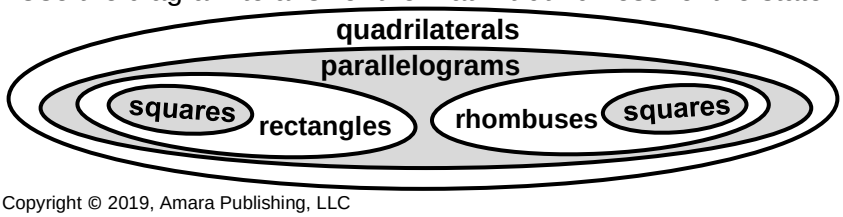
9. Find the Volume of the prism below.



V = ____ units^3

PART 3: *Reflection and Conceptual Understanding*

Use the diagram to answer the math "truthfulness" of the statements to the right. Circle 'True' or 'False'.



- Parallelograms are quadrilaterals. **True** **False**
- 'Quad' means 4 – (as in 4 sides). **True** **False**
- A square can be classified as a rectangle or rhombus because it has 4 equal sides. **True** **False**

Fall Learning Opportunity 77
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find - *equivalent fractions*.

$\frac{21}{36} = \frac{\square}{\square}$ Divide by 1 = $\frac{3}{3}$ $\frac{8}{16} = \frac{\square}{\square}$ Divide by 1 = $\frac{2}{2}$

2. A fraction is 2 things. *Complete.*

Part of a group *Division equation*

$\frac{1}{5}$ ➡ ➡ ⟌ _ . _

*"**R**oll to **R**ight."*

3. Find mixed numbers.

$\frac{5}{5}$ ⟌ = _ $\frac{13}{5}$ ⟌ = _

4. Complete: Write the decimals **D**, proper **PF** and improper fractions **IF**, and mixed numbers **MN**.

D ➪ 0 1.0 2.0

PF IF ➪

MN ➪

Hint: *Determine the number line's denominator.*

PART 2: *Application Practice*

5. Complete.

scalene rhombuses parallelograms
isosceles squares trapezoids
rectangles quadrilaterals equilateral

Polygons

A triangle with: 1.) all equal sides is an _____. 2.) two equal sides is an _____ 3.) all sides unequal is called a _____.

6. Blaine was confused. How could ½ x ½ = ¼? It did not make sense that multiplying two halves gives a product equal to one-fourth. **Prove** that ½ x ½ = ¼ by shading the diagram.

$\frac{1}{2}$ $\frac{1}{2}$

Is 1 out of 4 double shaded?

7. Mona had 3 ~ **x, y coordinates**. They are (3, 6) ; (5, 10) ; (7, 14). What is the rule that relates the three **x, y coordinates**?

Ⓐ y = 2x Ⓒ y = x - 3
Ⓑ y = 3x Ⓓ y = x + 3

8. From the number line in problem 4, *select* a point and show that (**D** = **IF** = **MN**).

$\square = \frac{\square}{\square} = \square\frac{\square}{\square}$

9. Combine the two fractions – Use the LCD.

+

Ⓐ $\frac{4}{24}$ Ⓒ $\frac{12}{24}$
Ⓑ $\frac{20}{24}$ Ⓓ $\frac{8}{24}$

PART 3: *Reflection and Conceptual Understanding*

Angle Review: *Is the angle a right, obtuse or acute*? Place a piece of paper's corner 'edge' inside each angle. If the paper corner fits *perfectly* inside, then it is a right angle. If the paper covers one ray completely, it is acute. If the ray of the angle is showing, it is an obtuse angle. **Circle** your choice.

a.) **Right angle** **Acute** **Obtuse**

b.) **Right angle** **Acute** **Obtuse**

c.) **Right angle** **Acute** **Obtuse**

Fall Learning Opportunity **78**
"Layering a Sound Foundation"

Name: _____

PART 1: *Numeracy Development*

1. Find - *equivalent fractions*.

$\frac{24}{36} = \frac{\square}{\square}$ Divide by 1 = $\frac{12}{12}$

$\frac{10}{20} = \frac{\square}{\square}$ Divide by 1 = $\frac{10}{10}$

2. A fraction is 2 things. *Complete.*

Part of a group *Division equation*

$\frac{1}{2}$ ➡ ⬭ ➡ ⟌

*"**R**oll to **R**ight."*

3. Find mixed numbers.

$\frac{4}{2}$ ⟌ $\frac{3}{2}$ ⟌

4. Complete: Write the decimals **D**, proper **PF** and improper fractions **IF**, and mixed numbers **MN**.

D ➪ 0 ☐ 1.0 ☐ 2.0 ☐ 3.0 ☐ 4.0 ☐ 5.0 ☐ 6.0

PF ➪ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

IF ➪

MN ➪ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Hint: *Determine the number line's denominator.*

PART 2: *Application Practice*

5. Match with an arrow.

polygon	• not a polygon
circle	• ▱
quadrilateral	• Closed, straight sided figure
isosceles triangle	• △
scalene triangle	• ◺
equilateral triangle	• ◺
rectangle	• ▭
parallelogram	• ▱
rhombus	• ◇
trapezoid	• ⏢
obtuse angle	• ∠
acute angle	• ∠
right angle	• ∟

6. Chuck's fish aquarium can hold 2 ¾ liters of water. His friend, Kim, has a fish tank that can hold 1 ½ times as much water. How much water does Kim's fish tank hold?

Ⓐ $\frac{33}{8}$ Ⓒ $\frac{11}{4}$

Ⓑ $\frac{3}{2}$ Ⓓ $\frac{66}{16}$

7. Mona had 3 ~ **x, y coordinates**. They are (3, 1) ; (5, 3) ; (7, 5). What is the rule that relates the three **x, y coordinates**?

Ⓐ y = 2x Ⓒ y = x - 2

Ⓑ y = 3x Ⓓ y = x + 2

8. From the number line in problem 4, *select* a point and show that (**D** = **IF** = **MN**).

☐ = $\frac{\square}{\square}$ = $\frac{\square}{\square}$

9. Combine the two fractions – Use the LCD.

▦ - ▦

Ⓐ $\frac{4}{24}$ Ⓒ $\frac{12}{24}$

Ⓑ $\frac{20}{24}$ Ⓓ $\frac{8}{24}$

PART 3: *Reflection and Conceptual Understanding*

Angle Review: *Is the angle a right, obtuse or acute*? Place a piece of paper's corner 'edge' inside each angle. If the paper corner fits *perfectly* inside, then it is a right angle. If the paper covers one ray completely, it is acute. If the ray of the angle is showing, it is an obtuse angle. **Circle** your choice.

a.) ∠ **Right angle** **Acute** **Obtuse**

b.) ∠ **Right angle** **Acute** **Obtuse**

c.) ∠ **Right angle** **Acute** **Obtuse**

Name:______________

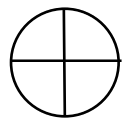
PART 1: *Numeracy Development*

1. Draw the missing ray of a/an:

Obtuse Angle **Right Angle** **Acute Angle**

2. A fraction is 2 things. *Complete.*

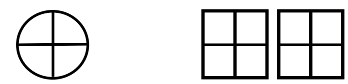
Part of a group ***Division equation***

$\frac{3}{4}$ ➡  ➡ $\overline{)\ \_\ .\ \_\ \_\ }$

"Roll to Right."

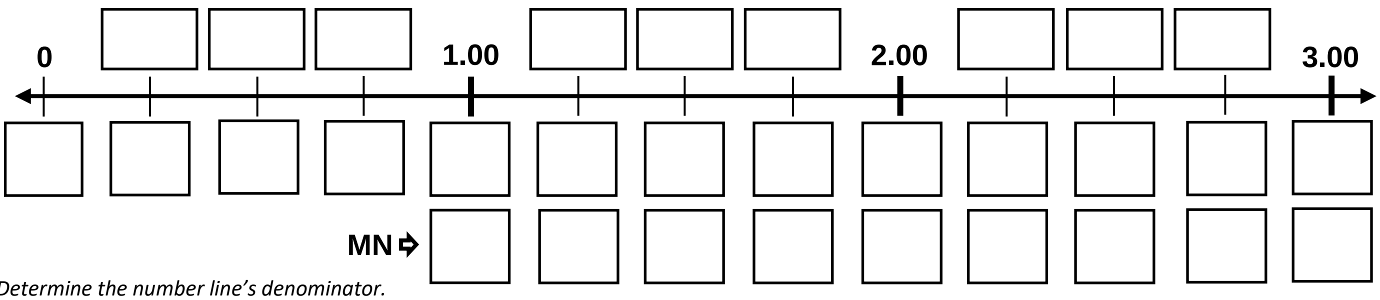
3. Find mixed numbers.

$\frac{4}{4}$ ↘ $\overline{)\ \_\ }$ $\frac{5}{4}$ ↘ $\overline{)\ \_\ }$



4. Complete: Write the decimals **D**, proper **PF** and improper fractions **IF**, and mixed numbers **MN**.

D ⇨ **0** **1.00** **2.00** **3.00**



PF IF ⇨

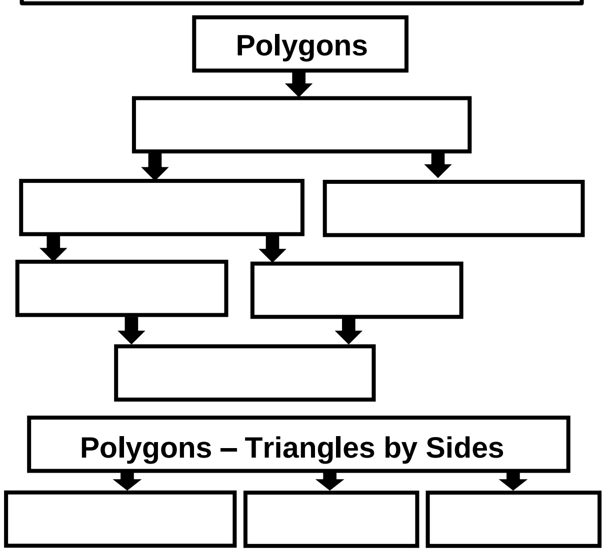
MN ⇨

Hint: *Determine the number line's denominator.*

PART 2: *Application Practice*

5. Complete the diagrams.

scalene	**parallelograms**	**rhombuses**
isosceles	**squares**	**trapezoids**
rectangles	**quadrilateral**	**equilateral**



6. Amara's fish aquarium can hold 1 ¾ liters of water. Her friend, Karla, has a fish tank that can hold 4 ½ liters of water. How much larger is Karla's aquarium than Amara's?

Ⓐ $^{2}/_{2}$ Ⓒ $^{126}/_{4}$

Ⓑ $^{11}/_{4}$ Ⓓ $^{25}/_{4}$

7. Mona had 3 ~ **x, y coordinates**. They are (7, 5) ; (10, 8) ; (13, 11). What is the rule that relates the three **x, y coordinates**?

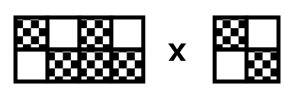
Ⓐ y = 2x Ⓒ y = x - 2

Ⓑ y = 3x Ⓓ y = x + 2

8. From the number line in problem 4, *select* a point and show that (**D** = **IF** = **MN**).

☐ = $\frac{☐}{☐}$ = ☐ $\frac{☐}{☐}$

9. Find the *product*.

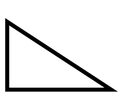


Ⓐ $^{10}/_{32}$ Ⓒ $^{7}/_{12}$

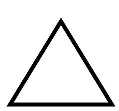
Ⓑ $^{32}/_{10}$ Ⓓ $^{9}/_{8}$

PART 3: *Reflection and Conceptual Understanding*

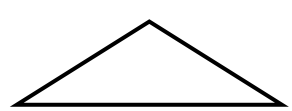
Triangles by their Angles: If all the triangle's angles are acute, it is an ACUTE triangle. If the triangle has a right angle, it is a RIGHT triangle. If the triangle has an obtuse angle, it is an OBTUSE triangle. ***Circle*** the triangle name.



Acute Triangle
Right Triangle
Obtuse Triangle



Acute Triangle
Right Triangle
Obtuse Triangle



Acute Triangle
Right Triangle
Obtuse Triangle

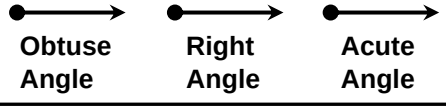
Fall Learning Opportunity 80

"Layering a Sound Foundation"

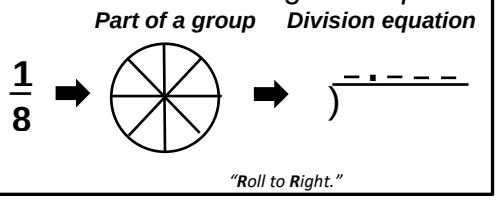
Name: _____

PART 1: *Numeracy Development*

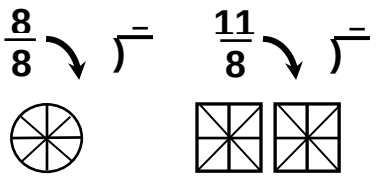
1. Draw the missing ray of a/an:



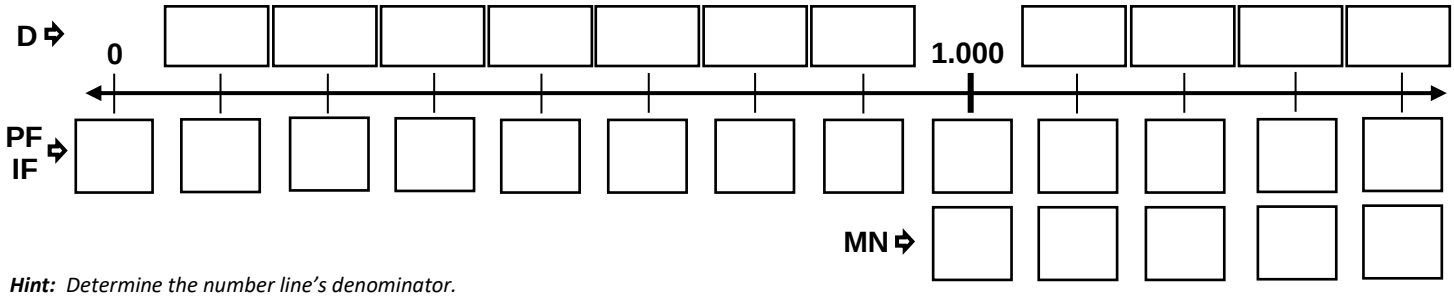
2. A fraction is 2 things. *Complete.*



3. Find mixed numbers.



4. Complete: Write the decimals **D**, proper **PF** and improper fractions **IF**, and mixed numbers **MN**.

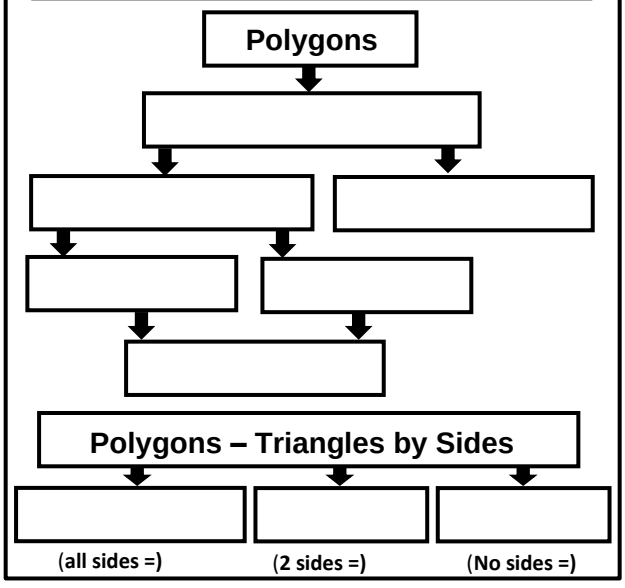


Hint: *Determine the number line's denominator.*

PART 2: *Application Practice*

5. Complete the diagrams.

scalene **parallelograms** **rhombuses**
isosceles **squares** **trapezoids**
rectangles **quadrilateral** **equilateral**



6. Aaron has a blanket that is 5 feet long and 6 feet wide. Bill's blanket is 3 feet long and 8 feet wide. What equation, K, computes the difference in the area of the blankets?

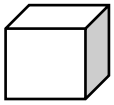
Ⓐ K = (5 + 6) – (3 x 8)

Ⓑ K = (5 + 6) + (3 x 8)

Ⓒ K = (5 x 6) – (3 x 8)

Ⓓ K = (5 x 6) + (3 x 8)

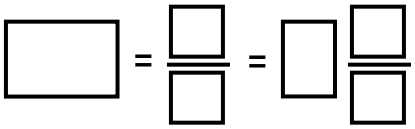
7. What is the volume of a cube with a side equal to 4 feet?



Ⓐ 12 ft^3 Ⓒ 48 ft^3

Ⓑ 36 ft^3 Ⓓ 64 ft^3

8. From the number line in problem 4, *select* a point and show that (**D** = **IF** = **MN**).

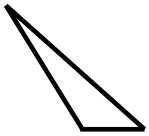


9. Keisha jumped 9 feet. Mary jumped 0.4 feet farther than Keisha. Carla hopped 0.56 feet farther than Mary. What is sum of all three girls' jumps?

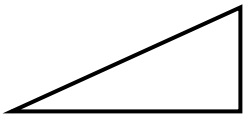
_____ feet

PART 3: *Reflection and Conceptual Understanding*

Triangles by their Angles: If all the triangle's angles are acute, it is an ACUTE triangle. If the triangle has a right angle, it is a RIGHT triangle. If the triangle has an obtuse angle, it is an OBTUSE triangle. ***Circle*** the triangle name.



Acute Triangle
Right Triangle
Obtuse Triangle



Acute Triangle
Right Triangle
Obtuse Triangle

Acute Triangle
Right Triangle
Obtuse Triangle

Grade 5

ANSWER KEY

80 Daily Learning Opportunities

Mathematics

Fall Semester

Learning Opportunity 01

Part 1 – Numeracy Development **– Focus on vocabulary (Write *sum, difference, addend,* etc. on the word wall and repeatedly stress)** **CCSS**

1.	**a.)** 47	**b.)** 82	**c.)** 109	**d.)** 112	**4.NBT.B.4**
2.	**a.)** 35	**b.)** 28	**c.)** 40	**d.)** 46	**4.NBT.B.4**
3.	**a.)** 20	**b.)** 50	**c.)** 10	**d.)** 30	**4.NBT.B.4**
4.	**a.)** even	**b.)** odd	**c.)** even	**d.)** even	**2.OA.C.3**
5.	**a.)** Given	**b.)** 8,000 + 0 + 20 + 9	**c.)** 10,000 + 3,000 + 0 + 80 + 0	**d.)** 20,000 + 9,000 + 700 + 0 + 5	**4.NBT.A.2**
6.	Given; 6 + 5 = 11;	Given; 11 - 5 = 6			**2.OA.B.2**

Part 2 – Application Practice

7. **D** - **73** (i.e. 73 is the only 2 digit number that is both odd and greater than 41.) **2.NBT.A.3; 2.OA.C.3**

8. **D** - **29** (i.e. 91 - 62 = **29**) **4.OA.A.3; 4.NBT.B.4**

9. Place Value is **thousands;** Value is **0** **4.NBT.A.2**

10. **32** (i.e. 19 + 13 = **32**) **4.OA.A.3; 4.NBT.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: a.) 8 – 2 = **6** **b.)** 10 – 4 = **6** **c.)** 6 + 1 = **7** **5.OA.A.1**

Learning Opportunity 02

Part 1 – Numeracy Development **– Focus on vocabulary (Write *sum, difference, addend,* etc. on the word wall and repeatedly stress)** **CCSS**

1.	**a.)** 82	**b.)** 108	**c.)** 1,069	**d.)** 1,201	**4.NBT.B.4**
2.	**a.)** 91	**b.)** 27	**c.)** 164	**d.)** 516	**4.NBT.B.4**
3.	**a.)** 60	**b.)** 40	**c.)** 70	**d.)** 90	**4.NBT.B.4**
4.	**a.)** odd	**b.)** odd	**c.)** even	**d.)** even	**2.OA.C.3**
5.	**a.)** 60,000 + 4,000 + 400 + 70 + 0	**b.)** 40,000 + 8,000 + 0 + 0 + 2	**c.)** 10,000 + 7,000 + 0 + 0 + 0	**d.)** 80,000 + 0 + 300 + 0 + 1	**4.NBT.A.2**
6.	Given; 9 + 3 = 12;	12 – 3 = 9;	12 – 9 = 3		**2.OA.B.2**

Part 2 – Application Practice

7. **C** - **996** (i.e. 996 is the only 3-digit number that is even.) **2.NBT.A.3; 2.OA.C.3**

8. **A** - **204** (i.e. 450 - 246 = **204**) **4.OA.A.3; 4.NBT.B.4**

9. Place Value is **ten thousands;** Value is **50,000** **4.NBT.A.2**

10. Pat = **10;** Luis = **4** (i.e. Half of 20 is **10**; 10 – 6 = **4**) **4.OA.A.3; 2.OA.B.2**

Part 3 – Reflection and Conceptual Understanding

Student Answer: a.) 15 – 6 = **9** **b.)** 12 – 5 = **7** **c.)** 10 + 7 = **17** **5.OA.A.1**

Learning Opportunity 03

Part 1 – Numeracy Development **– Focus on vocabulary (Write *sum, difference, addend,* etc. on the word wall and repeatedly stress)** **CCSS**

1.	**a.)** 1,069	**b.)** 765			**4.NBT.B.4**
2.	**a.)** 681	**b.)** 257			**4.NBT.B.4**
3.	**a.)** 50	**b.)** 80			**4.NBT.B.4**
4.	**a.)** odd	**b.)** even			**2.OA.C.3**
5.	**a.)** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	**b.)** 10, 20, 30, 40, 50, 60, 70, 80, 90, 100			**4.OA.B.4**
6.	**a.)** 90,000 + 0 + 0 + 80 + 2	**b.)** 60,000 + 1,000 + 300 + 20 + 0	**c.)** 30,000 + 4,000 + 0 + 0 + 0		**4.NBT.A.2**
7.	8 + 4 = 12;	4 + 8 = 12;	12 – 4 = 8;	12 – 8 = 4	**2.OA.B.2**

Part 2 – Application Practice

8. **B** - **200** (i.e. 200 is the number that is between 150 and 200, and is even.) **2.NBT.A.3; 2.OA.C.3**

9. **A** - **764** (i.e. 382 + 382 = **764** or 382 x 2 = **764**) **4.OA.A.3; 4.NBT.B.4**

10. 70,243 **NOTE:** Stress the vocabulary meaning of math place value term, '**standard form**'. **4.NBT.A.2**

11. Jeff = **24**; (Double: 12 x 2 or 12 + 12 = **24**) **4.OA.A.3; 2.OA.B.2**

Part 3 – Reflection and Conceptual Understanding

Student Answer: a.) 6 – 5 = **1** **b.)** 12 + 5 = **17** **c.)** 10 - 5 = **5** **5.OA.A.1**

Learning Opportunity 04

Part 1 – Numeracy Development **CCSS**

1. **a.)** 1,519 **b.)** 1,738 **4.NBT.B.4**

2. **a.)** 406 **b.)** 213 **4.NBT.B.4**

3. **a.)** 5 **b.)** 15 **4.NBT.B.4**

4. **a.)** even **b.)** odd **2.OA.C.3**

5. **a.)** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 **b.)** 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 **4.OA.B.4**

6. **a.)** 100,000 + 30,000 + 0 + 0 + 80 + 2 **b.)** 300,000 + 20,000 + 1,000 + 600 + 0 + 5 **c.)** 400,000 + 0 + 9,000 + 100 + 90 + 0 **4.NBT.A.2**

Part 2 – Application Practice

7. 6 + 9 = 15; 9 + 6 = 15; 15 – 9 = 6; 15 – 6 = 9 **2.OA.B.2**

8. **a.) 34** ounces (i.e. 19 + 15 = **34**) **b.) 18** ounces (i.e. 21 + 19 = 40; 15 + 7 = 22; 40 – 22 = **18**) **4.OA.A.3; 4.NBT.B.4**

9. 395,020 **NOTE:** Stress the vocabulary meaning of math place value term, '**standard form'**. **4.NBT.A.2**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Given; 5, 10, 15; 5, 40, 45; 5, Given, 5 **4.NBT.B.4**

Learning Opportunity 05

Part 1 – Numeracy Development **CCSS**

1. **a.)** 17,658 **b.)** 3,443 **4.NBT.B.4**

2. First Column: Given; 5 Second Column: 3; 1 **2.OA.B.2**

3. **a.)** 25 **b.)** 35 **4.NBT.B.4**

4. **a.)** even **b.)** even **2.OA.C.3**

5. **a.)** 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 **b.)** 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200 **4.OA.B.4**
c.) 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30 **d.)** 0, 30, 60, 90, 120, 150, 180, 210, 240, 270, 300

6. 700,000 + 60,000 + 0 + 0 + 40 + 1 **4.NBT.A.2**

Part 2 – Application Practice

7. 6 and 8 = addends; 14 = sum; 9 = minuend 7 = subtrahend; 1 = difference **Vocab.**

8. **a.) Fourth Grade** (i.e. 69 + 71 = 140 – 4th graders; 58 + 75 = 133 – fifth graders) **b.) 19** (i.e. 146 Girls – 127 Boys = **19**) **4.OA.A.3; 4.NBT.B.4**

9. hundred thousand; 600,000 **4.NBT.A.2**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 5, 60, 65; 5, 80, 85; 5, 40, 45; 5, 50, 55 **4.NBT.B.4**

Learning Opportunity 06

Part 1 – Numeracy Development **CCSS**

1. **a.)** 11,282 **b.)** 3,975 **4.NBT.B.4**

2. First Column: 6; 2 Second Column: 5; 3 **2.OA.B.2**

3. **a.)** 65 **b.)** 75 **4.NBT.B.4**

4. First Column: Given; 40 Second Column: 40; 10 **2.OA.B.2**

5. **a.)** 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 **b.)** 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200 **4.OA.B.4**
c.) 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30 **d.)** 0, 30, 60, 90, 120, 150, 180, 210, 240, 270, 300

6. 2,000,000 + 300,000 + 0 + 6,000 + 800 + 0 + 8 **4.NBT.A.2**

Part 2 – Application Practice

7. 9 and 7 = addends; 16 = sum; 5 = minuend 3 = subtrahend; 2 = difference **Vocab.**

8. **a.) 1,644** (i.e. 789 + 855 = **1,644**) **b.) 276** (i.e. 855 - 579 = **276**) **4.OA.A.3; 4.NBT.B.4**

9. millions; 3,000,000 **4.NBT.A.2**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 5, 90, 95; 5, 70, 75; 5, 50, 55; 5, 20, 25 **4.NBT.B.4**

Learning Opportunity 07

Part 1 – Numeracy Development **CCSS**

1. 32,774 **NOTE:** Provide 1 to 2 problems – addition and subtraction – until students' master skill. **4.NBT.B.4**

2. First column: 8; 10; Second column: 7; 9; **4.NBT.B.4**

3. 90; 255; 56 **5.NBT.B.5**

4. First column: 70; 50; Second column: 60; 0; Third column: 10; 10; **4.NBT.A.3**

5. **a.)** 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30 **b.)** 0, 30, 60, 90, 120, 150, 180, 210, 240, 270, 300 **4.OA.B.4**

c.) 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 **d.)** 0, 40, 80, 120, 160, 200, 240, 280, 320, 360, 400

6. 40,000,000 + 3,000,000 + 0 + 50,000 + 7,000 + 900 + 50 + 0 **4.NBT.A.2**

Part 2 – Application Practice

7. 6: Minuend; 1: Subtrahend; 5: Difference; 8 and 3: Addends; 11: Sum **Vocab.**

8. **C** - **288** (i.e. 32 x 9 = **288**) **NOTE:** Stress 9 equal groups of 32 – the multiplication model. **4.OA.A.3; 5.NBT.B.5**

9. 76,040,953 **4.NBT.A.2**

10. **D** – **Both A and C** (i.e. 5 x 3 = 3 x 5) **NOTE:** Stress commutative property of multiplication – and array model. **5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Student should show 4 **equal** jumps of 10 each, and the last arrow point should terminate on 40. **5.NBT.B.5**

Learning Opportunity 08

Part 1 – Numeracy Development **CCSS**

1. 27,267 **NOTE:** Provide 1 to 2 problems – addition and subtraction – until students' master skill. **4.NBT.B.4**

2. First column: 10; 15; Second column: 25; 50; **4.NBT.B.4**

3. 140; 222; 340 **5.NBT.B.5**

4. First column: 80; 30; Second column: 100; 10; Third column: 0; 70; **4.NBT.A.3**

5. **a.)** 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 **b.)** 0, 40, 80, 120, 160, 200, 240, 280, 320, 360, 400 **4.OA.B.4**

c.) 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 **d.)** 0, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500

6. 200,000,000 + 0 + 7,000,000 + 600,000 + 0 + 8,000 + 700 + 30 + 0 **4.NBT.A.2**

Part 2 – Application Practice

7. 12: Minuend; 4 or 8: Subtrahend; 4 or 8: Difference; 6 and 3: Addends; 9: Sum **Vocab.**

8. **C** – **M = (3 x 2) + 1;** **NOTE:** Show 3 by 2 dot array with 1 dot to the side – physical model. **4.OA.A.3; 5.NBT.B.5**

9. 920,005,000 **4.NBT.A.2**

10. **D** – **R = 6 x 4**; **NOTE:** Stress multiplication array model physical meaning. **5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Student should show 3 **equal** jumps of 15 each, and the last arrow point should terminate on 45. **5.NBT.B.5**

Learning Opportunity 09

Part 1 – Numeracy Development **CCSS**

1. 77,182 **NOTE:** Provide 1 to 2 problems – addition and subtraction – until students' master skill. **4.NBT.B.4**

2. First column: 45; 75; Second column: 85; 80; **4.NBT.B.4**

3. 560; 354; 150 **5.NBT.B.5**

4. First column: 200; 100; Second column: 100; 0; Third column: 200; 400; **4.NBT.A.3**

5. **a.)** 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 **b.)** 0, 40, 80, 120, 160, 200, 240, 280, 320, 360, 400 **4.OA.B.4**

c.) 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 **d.)** 0, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500

6. 400,000,000 + 80,000,000 + 0 + 700,000 + 0 + 2,000 + 500 + 0 + 6 **4.NBT.A.2**

Part 2 – Application Practice

7. Given; T = (**3** x **2**) + **2;** H = (**4** x **4**) + **3;** K = **2** + (**2** x **5**)**;** **5.OA.A.2**

8. 500,200,532 **4.NBT.A.2**

9. 2,005 dollars; (i.e. 1680 + 325 = $ **2,005**) **4.OA.A.3; 4.NBT.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Student should show 5 **equal** jumps of 30 each, and the last arrow point should terminate on 150. **5.NBT.B.5**

Learning Opportunity 10

Part 1 – Numeracy Development **CCSS**

1. 40,156 **NOTE:** Provide 1 to 2 problems – addition and subtraction – until students' master skill. **4.NBT.B.4**

2. First column: 25; 65; Second column: 95; 75; **4.NBT.B.4**

3. 1,610; 944 **5.NBT.B.5**

4. First column: 200; 300; 500; Second column: 600; 400; 100; Third column: 0; 500; 400; **4.NBT.A.3**

5. **a.)** 0, 6, 12, 18, 24, 30, 36, 42, 48, 54, 60 **b.)** 0, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600 **4.OA.B.4**
c.) 0, 7, 14, 21, 28, 35, 42, 49, 56, 63, 70 **d.)** 0, 70, 140, 210, 280, 350, 420, 490, 560, 630, 700 **NOTE:** Practice sheets in skill support.

Part 2 – Application Practice

6. S = (**3** x **7**) + **5**; N = (**3** x **5**) + **4**; A = **2** + (**4** x **2**); K = **4** + (**5** x **6**); **5.OA.A.2**

7. $ 480; **NOTE:** Stress 40 equal groups of 12 – the multiplication group model. **4.OA.A.3; 5.NBT.B.5**

8. **B** – **$ 13,074** (i.e. 18,464 – 5,390 = **13,074 dollars**) **4.NBT.A.2**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 9 x 50 = 450 **NOTE:** Stress EQUAL groups. **5.NBT.B.5**

Learning Opportunity 11

Part 1 – Numeracy Development **CCSS**

1. First column: Given; 0.50; 0.80; Second column: 0.40; 0.10; 0.30 **5.NBT.B.7**

2. 3,876; 744 **5.NBT.B.5**

3. First column: 500; 800; 0; Second column: 100; 1,000; 900; **4.NBT.A.3**

4. **a.)** 0, 6, 12, 18, 24, 30, 36, 42, 48, 54, 60 **b.)** 0, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600 **4.OA.B.4**
c.) 0, 7, 14, 21, 28, 35, 42, 49, 56, 63, 70 **d.)** 0, 70, 140, 210, 280, 350, 420, 490, 560, 630, 700 **NOTE:** Practice sheets in skill support.

Part 2 – Application Practice

5. First column: Given; 10; 2; Second column: 20; 24; 30; **5.OA.A.1**

6. Factors: 9 and 12; Product: 9 x 12 = 108; **NOTE:** Multiplication model is the same regardless of the number of digits. **5.NBT.B.5**

7. **650** (65 x 10 = 650) **5.NBT.B.5**

8. **B** – **$ 170**; (i.e. 85 x 2 or 85 + 85 = **170**) **5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Factors: 9 and 25; Product: 9 x 25 = 225; **NOTE:** The three dots (ellipsis) meaning the groups between. **5.NBT.B.5**

Learning Opportunity 12

Part 1 – Numeracy Development **CCSS**

1. 0.70; 0.90; 0.60 **5.NBT.B.7**

2. 5,152 **5.NBT.B.5**

3. Given; 2,000; 1,000 **4.NBT.A.3**

4. First column: Given; 0.3; 0.05; Second column: 0.9; 0.6; 0.007 **5.NBT.A.3**

5. **a.)** 0, 6, 12, 18, 24, 30, 36, 42, 48, 54, 60 **b.)** 0, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600 **4.OA.B.4**
c.) 0, 7, 14, 21, 28, 35, 42, 49, 56, 63, 70 **d.)** 0, 70, 140, 210, 280, 350, 420, 490, 560, 630, 700 **NOTE:** Practice sheets in skill support.

Part 2 – Application Practice

6. First column: 10; 80; 42; Second column: 2; 24; 40; **5.OA.A.1**

7. Factors: 20 and 20; Product: 20 x 20 = 400; **NOTE:** Multiplication model is the same regardless of number size. **5.NBT.B.5**

8. **288** (i.e. 24 x 12 = 288) **5.NBT.B.5**

9. **D** – **10,725** (i.e. 15,508 – 4,783 = **10,725**) **4.OA.A.3; 4.NBT.A.2**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Factors: 16 and 14; Product: 16 x 14 = 224; **NOTE:** The three dots (ellipsis) meaning the groups between. **5.NBT.B.5**

Learning Opportunity 13

Part 1 – Numeracy Development **CCSS**

1. 0.70; 0.80; 0.90 **5.NBT.B.7**

2. First column: 7,000; 2,000; 0; Second column: 4,000; 9,000; 1,000 **4.NBT.A.3**

3. First column: 0.03; 0.03; 0.3; Second column: 0.3; 0.3; 0.003 **5.NBT.A.3**

4. **a.)** 0, 8, 16, 24, 32, 40, 48, 56, 64, 72, 80 **b.)** 0, 80, 160, 240, 320, 400, 480, 560, 640, 720, 800 **4.OA.B.4**
c.) 0, 9, 18, 27, 36, 45, 54, 63, 72, 81, 90 **d.)** 0, 90, 180, 270, 360, 450, 540, 630, 720, 810, 900 **NOTE:** Practice sheets in skill support.

Part 2 – Application Practice

5. First column: 4; 40; 9; Second column: 3; 16; 36; **5.OA.A.1**

6. B = (**5** x **2**) + **3**; C = **2** + (**6** x **5**); **5.OA.A.2**

7. **672** (i.e. 32 x 21 = **672**) **5.NBT.B.5**

8. **A** – **1,050** (i.e. 50 x 21 = **1,050**) **NOTE:** 21 EQUAL groups of 50 – group model. – show diagram like problem 7 above. **5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **a.)** Given **b.)** $\frac{409}{1{,}000}$ **c.)** $\frac{9}{10}$ $\frac{}{10}$ **4.NF.C.6**

Note: This method is an easy way for students to ***convert*** decimals to equivalent fractions. It only takes a little practice.

Learning Opportunity 14

Part 1 – Numeracy Development **CCSS**

1. 0.20; 0.60; 0.70 **5.NBT.B.7**

2. First column: 4,000; 2,000; 1,000; Second column: 6,000; 10,000; 0 **4.NBT.A.3**

3. First column: 0.06; 0.06; 0; Second column: 0.07; 0.9; 0.009 **5.NBT.A.3**

4. **a.)** 0, 8, 16, 24, 32, 40, 48, 56, 64, 72, 80 **b.)** 0, 80, 160, 240, 320, 400, 480, 560, 640, 720, 800 **4.OA.B.4**
c.) 0, 9, 18, 27, 36, 45, 54, 63, 72, 81, 90 **d.)** 0, 90, 180, 270, 360, 450, 540, 630, 720, 810, 900 **NOTE:** Practice sheets in skill support.

Part 2 – Application Practice

5. 9; 18; 100 **5.OA.A.1**

6. Factors: 12 and 25; Product: 25 x 12 = 300; **NOTE:** Model for this word problem is shown problem 8 below. **5.NBT.B.5**

7. $^{50}/_{100}$ Shade 50 of the 100 blocks (5 columns of 10 each) **NOTE:** Use the '1' under the decimal point and 2 zeros. **4.NF.C.6**

8. 300 – Group Model for problem 6. **5.NBT.B.5**

9. **C - $1,000** (i.e. Estimation problem – round to the nearest 100: 900 + 100 = $ 1,000) **5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **a.)** $^{37}/_{100}$ **b.)** $^{501}/_{1{,}000}$ **c.)** 10; $^{3}/_{10}$ **4.NF.C.6**

Learning Opportunity 15

Part 1 – Numeracy Development **CCSS**

1. 0.15; 0.25; 0.05 **NOTE:** Distinguish between 0.05 and 0.50 using money (5¢ and 50¢) and fractions ($^{5}/_{100}$ and $^{50}/_{100}$) **5.NBT.B.7**

2. First column: 9,000; 6,000; 3,000; Second column: 5,000; 9,000; 1,000 **4.NBT.A.3**

3. First column: 0.08; 0.004; 0.2; Second column: 0.07; 0.09; 0.8 **5.NBT.A.3**

4. **a.)** 0, 8, 16, 24, 32, 40, 48, 56, 64, 72, 80 **b.)** 0, 80, 160, 240, 320, 400, 480, 560, 640, 720, 800 **4.OA.B.4**
c.) 0, 9, 18, 27, 36, 45, 54, 63, 72, 81, 90 **d.)** 0, 90, 180, 270, 360, 450, 540, 630, 720, 810, 900 **NOTE:** Practice sheets in skill support.

Part 2 – Application Practice

5. 40; 72; 30 **5.OA.A.1**

6. $630 (i.e. 35 x 18 = 630) **5.NBT.B.5**

7. $^{5}/_{100}$ Shade 5 of the 100 blocks. **NOTE:** Use the '1' under the decimal point and 2 zeros. **4.NF.C.6**

8. *Factors:* 35 in the circles; 18 in small square; *Product:* 630; **NOTE:** Students ***must*** understand these models with word problems. **5.NBT.B.5**

9. **A** – **$50** (i.e. 70 – 20 = **50**) **5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **a.)** $^{42}/_{100}$ **b.)** $^{307}/_{1{,}000}$ **c.)** $^{5}/_{10}$ **d.)** $3\ ^{2}/_{10}$ **4.NF.C.6**

Learning Opportunity 16

Part 1 – Numeracy Development **CCSS**

1. 0.45; 0.25; 0.35 **5.NBT.B.7**

2. First column: Given; 20; 30; Second column: 60; 100; 50 **4.NBT.B.4**

3. 11,807; 3,975 **4.NBT.B.4**

4. Given; 3 x 5 = 15; 15 ÷ 5 = 3; 15 ÷ 3 = 5 **NOTE:** Review the multiplication/division relationship until mastered. **4.OA.B.5**

5. **a.)** 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10 **b.)** 0.06, 0.08, 0.10, 0.12, 0.14, 0.16, 0.18 **5.NBT.A.3**

6. 4,530 = (4 x 1,000) + (5 x 100) + (3 x 10) + (0 x 1) **4.NBT.A.2**

Part 2 – Application Practice

7. 1,430 feet; (i.e. 55 x 26 = 1,430) **5.NBT.B.5**

8. $^{9}/_{100}$ - Shade 9 out of 100 on grid; $^{9}/_{10}$ – Shade 9 out of 10 on grid. **NOTE:** Equate decimals to money for student understanding. **4.NF.C.6**

9. *Factors:* 55 in the circles; 26 in small square; *Product:* 1,430; **NOTE:** Students ***must*** understand these models with word problems. **5.NBT.B.5**

10. **B** – **10** (i.e. 20 x 2 = 40; 40 + 10 = 50; 50 ÷ 2 = 25; 25 - 15 = **10**) **4.NBT.B.4; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **a.)** $^{7}/_{100}$ **b.)** $2\ ^{51}/_{100}$ **c.)** $^{5}/_{1,000}$ **d.)** $7\ ^{6}/_{10}$ **4.NF.C.6**

Learning Opportunity 17

Part 1 – Numeracy Development **CCSS**

1. 0.55; 0.95; 0.75 **5.NBT.B.7**

2. First column: 100; 30; 50; Second column: 80; 120; 60 **4.NBT.B.4**

3. 9.7; 5.4; 13.0; 3.3 **5.NBT.B.7**

4. 6 x 3 = 18; 3 x 6 = 18; Given; 18 ÷ 3 = 6 **NOTE:** Review the multiplication/division relationship until mastered. **4.OA.B.5**

5. **a.)** 0.01; 0.02; 0.03, 0.04, 0.05, 0.06, 0.08, 0.09, 0.10 **b.)** 0; 0.02; 0.04; 0.06, 0.10, 0.12, 0.14, 0.16, 0.20 **5.NBT.A.3**

6. 7,098 = (7 x 1,000) + (0 x 100) + (9 x 10) + (8 x 1) **4.NBT.A.2**

Part 2 – Application Practice

7. $ 8.80; (i.e. 5.60 + 3.20 = 8.80) **5.NBT.B.7**

8. $^{81}/_{100}$ - Shade 81 out of 100 on grid; $2\ ^{4}/_{10}$ – Shade 2 wholes and 4 out of 10 on the last grid. **4.NF.C.6**

9. **B** – **3,375** (i.e. 45 x 75 = 3,375) **NOTE:** An array 45 by 75. **5.NBT.B.5**

10. 44 > 15; (Jack = 4 x 5 = 20; 20 x 2 = 40; 40 - 10 = 30; 30 ÷ 2 = **15**) (Jill = 20 ÷ 5 = 4; 4 x 6 = 24; 24 – 20 = 4; 4 + 40 = **44**) **4.NBT.B.4; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **a.)** $^{17}/_{100}$ **b.)** $8\ ^{9}/_{10}$ **c.)** $^{78}/_{1,000}$ **d.)** $8\ ^{67}/_{100}$ **4.NF.C.6**

Learning Opportunity 18

Part 1 – Numeracy Development **CCSS**

1. 0.85; 0.05; 0.65 **5.NBT.B.7**

2. First column: 140; 50; 70; **4.NBT.B.4**

3. 14.09; 0.73 **5.NBT.B.7**

4. 0.04 < 0.4 (Given); 0.07 > 0.05 0.80 = 0.8; **NOTE:** 80 pennies = 8 dimes = 80 cents **5.NBT.A.3**

5. 21; 21; **NOTE:** Use spaces above each digit in the dividend. Zeros and the maximum size of quotient are handled. **5.NBT.B.6**

6. **a.)** 0, 0.01; 0.02; 0.03, 0.04, 0.05, 0.06, 0.07 0.08, 0.09, 0.10 **b.)** 0; 0.02; 0.04; 0.06, 0.08, 0.10, 0.12, 0.14, 0.16, 0.18, 0.20 **5.NBT.A.3**

7. 21,980 = (2 x 10,000) + (1 x 1,000) + (9 x 100) + (8 x 10) + (0 x 1) **4.NBT.A.2**

Part 2 – Application Practice

8. $1\ ^{8}/_{100}$ – Shade 1 Whole and 8 out of 100 on grid; $3\ ^{6}/_{10}$ – Shade 3 wholes and 6 out of 10 on the last grid. **4.NF.C.6**

9. **B** – **29** (i.e. 145 ÷ 5 = **29**) **5.NBT.B.6**

10. 300 > 200; (Jim = 20 x 2 = 40; 40 - 10 = 30; 30 x 10 = **300**) (Luz = 100 ÷ 5 = 20; 20 x 6 = 120; 120 – 20 = 100; 100 + 100 = **200**) **5.NBT.B.5/6/7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **a.)** Given **b.)** Dividend = 525; Divisor = 5; Quotient = 105 **c.)** Dividend = 364; Divisor = 7; Quotient = 52 **Vocab.**

Learning Opportunity 19

Part 1 – Numeracy Development **CCSS**

1. 160; 90; 100 **4.NBT.B.4**

2. 5.08; 3.04 **5.NBT.B.7**

3. First Column: 0.84 < 0.91; 0.01 < 0.1; 0.30 = 0.3; Second Column: 0.72 < 0.8; 0.81 > 0.18; 0.9 = 0.90; **5.NBT.A.3**

4. 55; 21; **NOTE:** Use spaces above each digit in the dividend. Zeros and the maximum size of quotient are handled. **5.NBT.B.6**

5. **a.)** 0, 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50 **b.)** 0, 0.10, 0.20, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00 **5.NBT.A.3**

6. 207,625 = (2 x 100,000) + (0 x 10,000) + (7 x 1,000) + (6 x 100) + (2 x 10) + (5 x 1) **4.NBT.A.2**

Part 2 – Application Practice

7. First Column: $2\ ^{48}/_{100}$; Shade 2 wholes and 48 out of 100 on the grid; $1\ ^{3}/_{100}$; Shade 1 whole and 3 out of 100 on the grid; **4.NF.C.6**
First Column: $5\ ^{1}/_{10}$; Shade 5 wholes and 1 out of 10 on the grid; $6\ ^{7}/_{10}$; Shade 6 wholes and 7 out of 10 on the grid;

8. **C – 22 stacks**; (i.e. 176 ÷ 8 = **22**). **5.NBT.B.6**

9. 150 > 110; (Rob = 24 ÷ 6 = 4; 20 x 4 = 80; 2 x 80 = 160; 160 – 10 = **150**) (Yaz = 100 x 5 = 500; 500 – 400 = 100; 100 ÷ 10 = 10; 10 + 100 = **110**) **5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Decimals are lined-up to **preserve** place value. A one is subtracted from a one, etc. Students do not realize that they Always have been lining up decimals. For example, 3 + 4 = 7 and 3.0 + 4.0 = 7.0. The decimal is always present in a number. **5.NBT.B.7**

Learning Opportunity 20

Part 1 – Numeracy Development **CCSS**

1. 9.48; 1.12 **5.NBT.B.7**

2. Given; 9; 10; **4.NBT.B.4**

3. First Column: 0.70 < 0.9; 0.015 < 0.14; 0.20 > 0.1; Second Column: 0.6 > 0.52; 0.67 < 0.7; 0.400 = 0.4 **5.NBT.A.3**

4. 83; 112; **NOTE:** Use spaces above each digit in the dividend. Zeros and the maximum size of quotient are handled. **5.NBT.B.6**

5. **a.)** 0, 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50 **b.)** 0, 0.10, 0.20, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00 **5.NBT.A.3**

6. 680,428 = (6 x 100,000) + (8 x 10,000) + (0 x 1,000) + (4 x 100) + (2 x 10) + (8 x 1) **4.NBT.A.2**

Part 2 – Application Practice

7. First Column: $2\ ^{7}/_{100}$ – Two wholes shaded and 7 out of 100 on grid; $^{51}/_{100}$ – Shade 51 out of 100 on the grid. **4.NF.C.6**
Second Column: $3\ ^{1}/_{10}$ – Three wholes shaded and 1 out of 10 on the last grid; $7\ ^{3}/_{10}$ – Shade seven wholes and 3 out of 10 on the last grid.

8. **D** – **M = (8 x 12) + 4**; (i.e. 8 equal groups of 12 and 4 added on for the 9th day.) **5.OA.A.1**

9. A = 32; **NOTE:** The student can count the squares *INSIDE* or multiply 8 x 4 – the lengths of the rectangle's length and width. **5.NBT.B.5**

10. P = 24: **NOTE:** 'Peri' means around. 'Meter' means measure. So, ***perimeter*** means to 'measure around.' **4.NBT.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **a.)** Given **b.)** 15.0 = 15.00 **c.)** 376.0 = 376.00 = 376.000 **d.)** 7,053.0 **4.NF.C.6**

Learning Opportunity 21

Part 1 – Numeracy Development **CCSS**

1. 9.382; 2.4; **NOTE:** Rewrite each equation *vertically* – *line-up* decimals and *add zeros* as needed. **5.NBT.B.7**

2. 8; 10; 15; **4.NBT.B.4**

3. First Column: 0.730 < 0.8; 0.015 < 0.123; 0.206 > 0.14 **5.NBT.A.3**

4. First Column: Given; 500; 250; Second Column: 300; 100; 450 **4.NBT.B.4**

5. **a.)** 0, 11, 22, 33, 44, 55, 66, 77, 88, 99, 110; **b.)** 0, 12, 24, 36, 48, 60, 72, 84, 96, 108, 120 **4.OA.B.5**

6. 3,428 = three thousand four hundred twenty-eight **4.NBT.A.2**

Part 2 – Application Practice

7. **D** – **322 m^2**; (i.e. 23 x 14 = 322 square meters = 322 m^2.) **5.NBT.B.5**

8. 23; 115 ÷ 5 = 23 **NOTE:** Stress vocabulary of dividend, divisor and quotient – students must know mathematical vocabulary. **5.NBT.B.6**

9. 4 hours – 12:30 to 4:30 is a span of 4 hours. **4.MD.A.2**

10. **B** – **B = (3 x 12) + 5**; (i.e. 3 equal groups of 12 and 5 MORE years.) **5.OA.A.1**

11. & 12. **A = 12** (i.e. count the *inside* squares or (2 x 4) + (2 x 2) = 12); **P = 16** (i.e. count the squares on the outside or add all sides) **4.NBT.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.7 = 7/10 ***and*** 0.70 = 70/100; 7 dimes out of 10 = 70 cents; 70 out of 100 pennies = 70 cents; Hence, 0.7 = 0.70 **5.NBT.A.3**

Learning Opportunity 22

Part 1 – Numeracy Development **CCSS**

1. 12.89; 1.75 **5.NBT.B.7**

2. 30; 35; 40 **4.NBT.B.4**

3. 0.963 > 0.954; 0.07 < 0.081; 0.249 < 0.3; **5.NBT.A.3**

4. First Column: 700; 850; 650; Second Column: 400; 50; 150 **4.NBT.B.4**

5. **a.)** 0, 11, 22, 33, 44, 55, 66, 77, 88, 99, 110; **b.)** 0, 12, 24, 36, 48, 60, 72, 84, 96, 108, 120 **4.OA.B.5**

6. 9.430 = nine thousand four hundred thirty **4.NBT.A.2**

Part 2 – Application Practice

7. 0.62 seconds; (i.e. 10.2 – 9.58 = 0.62 seconds) **5.NBT.A.3**

8. 532; (i.e. 19 x 28 = 532) **5.NBT.B.5**

9. 9:15; (i.e. 6:00 + 3:15 = 9:15) **4.MD.A.2**

10. 275 ft.; (i.e. 1,729 – 1,454 = 275 feet) **4.NBT.B.4**

11. **A =** 180 ft^2; (18 feet x 10 feet = 180 ft^2 = 180 square feet); **P =** 56 feet; (18 + 10) x 2 = 56 feet **or** add all four sides. **5.NBT.B.5**

12. $39,352; (14,845 + 24,507 = 39,352) **4.NBT.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: All are equal (=). Yes. **NOTE:** Stress that zeros may be added to any decimal and do not change its value. **5.NBT.A.3**

Learning Opportunity 23

Part 1 – Numeracy Development **CCSS**

1. 7.735; 1.43 **5.NBT.B.7**

2. 50; 40; 45; **4.NBT.B.4**

3. First Column: Given; $^{4}/_{100}$; Second Column: $^{7}/_{10}$; $^{219}/_{1,000}$ **4.NF.C.6**

4. 900; 750; 950 **4.NBT.B.4**

5. **a.)** 0, 12, 24, 36, 48, 60, 72, 84, 96, 108, 120; **b.)** 0, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150 **4.OA.B.5**

6. thirty-one thousand forty-five **4.NBT.A.2**

Part 2 – Application Practice

7. **B** – **T = (4 x 3) + (2 x 2)**; **NOTE:** Provide examples until mastered, so students can work problems WITHOUT the grid. **5.OA.A.1**

8. $ 824; (i.e. 206 x 4 = $ 824) **5.NBT.B.5**

9. 8:00; (i.e. 9:30 - 1:30 = 8:00) **4.MD.A.2**

10. **a.)** 32,224 (i.e. 84,913 – 52,689 = 32,224) **b.)** 140,990 (91,857 + 49,133 = 140,990) **c.)** 49,133 < 52,689 < 84,913 < 91,857 **4.NBT.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Yes; Yes; **NOTE:** It is critical that students understand this concept. Zeros can be added because at the end of the decimal (for example, 0.94 = 0.94**0**) because (0 x $^{1}/_{1,000}$) or (0 x 0.001) is **equal** to 0. **4.NF.C.6**

Learning Opportunity 24

Part 1 – Numeracy Development **CCSS**

1. 550; 850; 250; **4.NBT.B.4**

2. First Column: $^{95}/_{100}$; $^{46}/_{1,000}$; Second Column: $^{6}/_{10}$; $^{200}/_{1,000}$ **4.NF.C.6**

3. First Column: 3; 5; 9; Second Column: 9; 11; 3 **2.OA.B.2; 4.NBT.B.5**

4. **a.)** 0, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150; **b.)** 0, 25, 50, 75, 100, 125, 150, 175, 200, 225, 250 **4.OA.B.5**

5. four hundred thirty-nine thousand seven hundred forty-three **4.NBT.A.2**

Part 2 – Application Practice

6. **C** – **R = (5 x 3) + (2 x 3)**; **NOTE:** Provide examples until mastered, so students can work problems WITHOUT the grid. **5.OA.A.1**

7. 1,800; (50 x 36 = 1,800) **NOTE:** 36 equal groups of 50 in each month. **5.NBT.B.5**

8. $^{16}/_{100}$ (Proper Fraction); 0.16 (decimal) **5.NBT.A.3**

9. **a.)** 11.66 (i.e. 18.6 – 6.94 = 11.66); **b.)** 7.696 (i.e. 6.94 + 0.756 = 7.696) **5.NBT.B.7**

10. Sergio = 20 years old; (i.e. Bill = 15; Jim = 15 – 5 = 10; Sergio is double Jim's age – Sergio is 2 x 10 = 20) **4.NBT.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Row: Given; 67¢ 5¢ 15¢ Second Row: 20¢ 84¢ 2¢ 70¢ **5.NBT.A.4**

Learning Opportunity 25

Part 1 – Numeracy Development **CCSS**

1. 6 **5.NBT.B.6**

2. First Column: $^{25}/_{1,000}$; $^{108}/_{1,000}$; Second Column: $^{4}/_{10}$; $^{83}/_{100}$ **4.NF.C.6**

3. First Column: 6; 5; 9; Second Column: 10; 11; 5 **2.OA.B.2; 4.NBT.B.5**

4. **a.)** 0, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150; **b.)** 0, 25, 50, 75, 100, 125, 150, 175, 200, 225, 250 **4.OA.B.5**

5. eight hundred seven thousand nine hundred forty-three **4.NBT.A.2**

Part 2 – Application Practice

6. **D** – **P = 2 x (4 + 8)** **NOTE:** Provide examples until mastered, so students understand that 2 EQUAL groups of (5 + 7). **4.MD.B.4; 5.OA.A.1**

7. 3 $^{4}/_{10}$ (Mixed Number); 3.4 (decimal). **5.NBT.A.3**

8. $^{8}/_{100}$ (Proper Fraction); 0.08 (decimal) **5.NBT.A.3**

9. **a.)** 22.05 (i.e. 14.1 + 7.95 = 22.05); **b.)** 7.85 (i.e. 14.1 - 6.25 = 7.85) **5.NBT.B.7**

10. 12; (i.e. 180 ÷ 15 = 12) **5.NBT.B.6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Row: 3¢; 1¢ 9¢ 22¢ Second Row: 90¢ 90¢ 88¢ 40¢ **5.NBT.A.4**

Learning Opportunity 26

Part 1 – Numeracy Development **CCSS**

1. 9; 13 **5.NBT.B.6**

2. First Column: $^{5}/_{1,000}$; $^{80}/_{100}$; Second Column: $^{13}/_{100}$; $^{8}/_{100}$ **4.NF.C.6**

3. First Column: 3; 10; 6; Second Column: 30; 8; 3; **4.NF.B.5**

4. **a.)** 0, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150; **b.)** 0, 25, 50, 75, 100, 125, 150, 175, 200, 225, 250 **4.OA.B.5**

5. one million three hundred two thousand sixty-one **4.NBT.A.2**

Part 2 – Application Practice

6. **C** – **P = 2 x (5 + 7)**; **NOTE:** Provide examples until mastered, so students understand that 2 EQUAL groups of (5 + 7). **4.MD.B.4; 5.OA.A.1**

7. mixed number = 5 $^{6}/_{10}$; decimal = 5.6 **5.NBT.A.3**

8. proper fraction = $^{12}/_{100}$; decimal = 0.12 **5.NBT.A.3**

9. $ 36 (i.e. 180 ÷ 5 = **36**) **5.NBT.B.6**

10. 0.24 seconds (i.e. 11.04 – 10.8 = 0.**24**) **5.NBT.B.7**

11. quotient = 12 (i.e. 484 ÷ 32 = **12**) **5.NBT.B.6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Row: 7¢; 8¢ 5¢ 28¢ Second Row: 70¢ 72¢ 60¢ 80¢ **5.NBT.A.4**

Learning Opportunity 27

Part 1 – Numeracy Development **CCSS**

1. 14; 23 **5.NBT.B.6**

2. $^{503}/_{1,000}$; $^{48}/_{100}$; **4.NF.C.6**

3. First Column: 3; 25; 4; Second Column: 17; 18; 14; **4.NBT.B.5**

4. 4.5; 9.21 **5.NBT.B.7**

5. **a.)** 0, 12, 24, 36, 48, 60, 72, 84, 96, 108, 120; **b.)** 0, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150 **4.OA.B.5**

6. seven million forty-six thousand six hundred five **4.NBT.A.2**

Part 2 – Application Practice

7. **B** – **P = 2 x (6 + 10)**; **NOTE:** Provide examples until mastered, so students understand that 2 EQUAL groups of (6 + 10). **4.MD.B.4; 5.OA.A.1**

8. mixed number = 1 $^{9}/_{100}$; decimal = 1.09 **5.NBT.A.3**

9. **A** – **57**; (i.e. divide into two parallelograms – (3 x 3) + (12 x 4) = 9 + 48 = **57**) **4.MD.B.4; 5.OA.A.1**

10. **a.)** Cat = 17.82 kg. (i.e. 13.2 + 4.62 = **17.82**); **b.)** Mouse = 3.33 kg. (i.e. 13.2 – 9.87 = **3.33**) **5.NBT.A.3**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Row: 8¢; 3¢ 10¢ 56¢ Second Row: 71¢ 49¢ 22¢ 10¢ **5.NBT.A.4**

Learning Opportunity 28

Part 1 – Numeracy Development **CCSS**

1. **2**6 **5.NBT.B.6**

2. First Column: 9; 27; 90; Second Column: 32; 10; 20 **5.OA.A.1**

3. Top to Bottom: 0.6; 0.15; 0.7 **5.NBT.B.7**

4. Top to Bottom: 5.6; 9.71 **5.NBT.B.7**

5. First Row: Given; 0.9; 0.9; Second Row: 0.1; 0.4; 0.8 **5.NBT.A.4**

6. Top to Bottom: Given; 2 + 0.3 + 0.08 **5.NBT.A.3**

7. twenty-seven million five thousand nine hundred forty **4.NBT.A.2**

Part 2 – Application Practice

8. 26 and 8: factors; 208: product; 35: quotient; 15: divisor; 525: dividend **vocab.**

9. $5\ ^{7}/_{10}$ (Mixed Number); 5.7 (decimal). **5.NBT.A.3**

10. **A = 792** (i.e. 22 x 36 = **792**) **5.NBT.B.5**

11. 24; (i.e. 768 ÷ 32 = **24**) **5.NBT.B.6**

12. 0.7 > 0.603 > 0.089 or 0.089 < 0.603 < 0.7 **5.NBT.A.3**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Row: Given; 4 1 5 Second Row: 1 7 6 7 **5.NBT.A.4**

Learning Opportunity 29

Part 1 – Numeracy Development **CCSS**

1. 61 **5.NBT.B.6**

2. First Column: 13; 8; 45; Second Column: 6; 10; 60 **5.OA.A.1**

3. From Top to Bottom: 0.55; 0.15; 0.35 **5.NBT.B.7**

4. 6.55; 8.07 **5.NBT.B.7**

5. First Row: 0.1; 1.0; 0.9; Second Row: 0; 0.3; 0.7 **5.NBT.A.4**

6. Given; 2 + 0.4 **5.NBT.A.3**

7. Given; $2 + {}^{4}/_{10}$ **5.NBT.A.3**

Part 2 – Application Practice

8. 34 and 28: factors; 952: product; 41: quotient; 23: divisor; 943: dividend **vocab.**

9. $4\ ^{5}/_{10}$ (Mixed Number); 4.5 (decimal). **5.NBT.A.3**

10. **B T = 268** (i.e. 67 + 67 + 67 + 67 = **268** OR 67 x 4 = **268**) **NOTE:** Recommend showing students both solutions. **4.MD.B.4; 5.NBT.B.5**

11. 16,994 (i.e. 62,086 – 45,092 = **16,994**) **4.NBT.B.5**

12. 0.60 = 0.6 > 0.059 or 0.059 < 0.60 < 0.6 **5.NBT.A.3**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Row: 7; 14 1 8 Second Row: 1 9 10 8 **5.NBT.A.4**

Learning Opportunity 30

Part 1 – Numeracy Development **CCSS**

1. 988 **5.NBT.B.6**

2. 5; 5; 10; **5.OA.A.1**

3. First Column: 0.15; 0.05; 0.1; Second Column: 0.08; 0.09; 0.11; **5.NBT.B.7**

4. 2,146 **5.NBT.B.5**

5. 0.8; 0.1; 0.9; 0.3; 0.7 **5.NBT.A.4**

6. First Column: Given; Second Column: 3 + 0.2 + 0.05 + 0.004; $3 + {}^{2}/_{10} + {}^{5}/_{100} + {}^{4}/_{1,000}$ **5.NBT.A.3**

Part 2 – Application Practice

7. Given; 50; 800 **NOTE:** Review, but many students round **after** the operation. Round FIRST. Provide practice, as needed. **4.NBT.B.4**

8. mixed number = $2\ ^{3}/_{10}$; decimal = 2.3 **5.NBT.A.3**

9. **D** – **2,000;** (i.e. 40 x 50 = 2,000) **NOTE:** Round first. Then multiply. **5.NBT.B.5**

10. **B** – 30**;** (i.e. 100 - 70 = 30) **NOTE:** Round first. Then subtract. **4.NBT.B.4**

11. 62.74 grams (i.e. 24.2 + 38.54 = **62.74**) **5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Row: 9; 25 6 9 Second Row: 1 4 7 1 **5.NBT.A.4**

Learning Opportunity 31

Part 1 – Numeracy Development **CCSS**

1. 3,822 **5.NBT.B.5**

2. Top to Bottom: 0.2; 0.21; 0.19 **5.NBT.B.7**

3. Decimals: 0.2; 0.3; 0.5; 0.7; 0.8 Proper Fractions: $^{3}/_{10}$; $^{4}/_{10}$; $^{5}/_{10}$; $^{7}/_{10}$; $^{9}/_{10}$ **4.NF.B.3; 5.NBT.B.7**

4. Given; 0.07; 0.95; 0.31; 0.65 **5.NBT.A.4**

5. First Column: $9 + 0.2 + 0.03 + 0.006$; $9 + {}^{2}/_{10} + {}^{3}/_{100} + {}^{6}/_{1,000}$ Second Column: $10 + 3 + 0 + 0.04 + 0.005$; $10 + 3 + {}^{0}/_{10} + {}^{4}/_{100} + {}^{5}/_{1,000}$ **5.NBT.A.3**

Part 2 – Application Practice

6. 100 (i.e. 60 + 40); 60 (i.e. 90 – 30 = 60); 630 (i.e. 70 x 9 = 630) **4.NBT.B.4**

7. y = 12, Given, 16; y = 0, Given, 10 **5.OA.B.3**

8. **C = 850** (i.e. 25 x 34 = **850**) **NOTE:** Connect the multiplication group model with the calculation so students understand the math) **5.NBT.B.5**

9. **A = 12** (i.e. 276 ÷ 23 = **12**) **NOTE:** Connect the division group model with the calculation so students understand the algorithm) **5.NBT.B.6**

10. 2; Given; 4; **NOTE:** Recommend showing students a division group model. 24 divided by 12 is 2 equal groups. **5.MD.A.1; 5.NBT.B.6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Column: Whole Numbers: 2, 3; 0.15 away from 2. Second Column: Whole Numbers: 3, 4; 0.3 away from 4. **5.NF.B.3; 5.NBT.B.7**

Learning Opportunity 32

Part 1 – Numeracy Development **CCSS**

1. First Column: Given; 0.07; 0.19; Second Column: 0.4; 0.35; 0.43 **5.NBT.B.7**

2. Decimals: 0.2; 0.3; 0.5; 0.6; 0.7; 0.8 Proper Fractions: $^{1}/_{10}$; $^{2}/_{10}$ $^{3}/_{10}$; $^{4}/_{10}$; $^{5}/_{10}$; $^{7}/_{10}$; $^{8}/_{10}$; $^{9}/_{10}$ **4.NF.B.3; 5.NBT.B.7**

3. 0.01; 0.06; 0.99; 0.31; 0.44 **5.NBT.A.4**

4. 1st Column: $200 + 10 + 8 + 0.4 + 0 + 0.006$; $200 + 10 + 8 + {}^{4}/_{10} + {}^{0}/_{100} + {}^{6}/_{1,000}$ 2nd Column: $90 + 0 + 0.1 + 0.01 + 0.001$; $90 + 0 + {}^{1}/_{10} + {}^{1}/_{100} + {}^{1}/_{1,000}$ **5.NBT.A.3**

Part 2 – Application Practice

5. 700 (i.e. 300 + 400 = 700); 300 (i.e. 900 – 600 = 300); 630 (i.e. 90 x 6 = 540) **4.NBT.B.4**

6. y = 25, 28, 31; y = 1, 5, 9 **5.OA.B.3**

7. **B = 135** (i.e. 2,025 ÷ 15 = **135**) **NOTE:** Connect the division group model with the calculation so students understand the math) **5.NBT.B.6**

8. **C = 300** (i.e. 1,000 - 700 = **1300**) **4.NBT.B.4**

9. 1; 3; 5; **NOTE:** Recommend showing students a division group model. For example: 36 divided by 12 is 3 equal groups. **5.MD.A.1; 5.NBT.B.6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Column: Whole Numbers: 7, 8; 0.08 away from 8. Second Column: Whole Numbers: 13, 14; 0.46 away from 13. **5.NF.B.3; 5.NBT.B.7**

Learning Opportunity 33

Part 1 – Numeracy Development **CCSS**

1. First Column: 0.11; 0.07; 0.14; **5.NBT.B.7**

2. Decimals: 3.2; 3.3; 3.5; 3.6; 3.7; 3.8; 3.9 Mixed Numbers: $3\ {}^{1}/_{10}$; $3\ {}^{2}/_{10}$ $3\ {}^{3}/_{10}$; $3\ {}^{4}/_{10}$; $3\ {}^{5}/_{10}$; $3\ {}^{6}/_{10}$; $3\ {}^{8}/_{10}$; $3\ {}^{9}/_{10}$ **4.NF.B.3; 5.NBT.B.7**

3. 0.01; 0.07; 0.96 **5.NBT.A.4**

4. y = 20, 25; y = 4, 10 **5.OA.B.3**

5. $9{,}000 + 400 + 0 + 8 + 0.6 + 0.07 + 0.005$; $9{,}000 + 400 + 0 + 8 + {}^{6}/_{10} + {}^{7}/_{100} + {}^{5}/_{1,000}$ **5.NBT.A.3**

Part 2 – Application Practice

6. 1,200 (i.e. 400 + 800 = 1,200); 900 (i.e. 900 – 0 = 900); 2,800 (i.e. 70 x 40 = 2,800) **4.NBT.B.4; 5.NBT.B.5**

7. $1\ {}^{1}/_{4}$ (Mixed Number); $^{5}/_{4}$ (improper fraction). **NOTE:** Show examples of improper fractions, as needed. $1\ {}^{1}/_{4} = {}^{5}/_{4}$ ***(Emphasize)*** **5.NBT.A.3**

8. **A = 42** (i.e. 6 x 7 = **42**) **NOTE:** Remind students a regular polygon – hexagon has equal sides) **5.NBT.B.5**

9. **D = 560** (i.e. 70 x 8 = **560**) **4.NBT.B.4**

10. 6; 15; 27; 30 **NOTE:** Recommend showing students a multiplication group model. For example: 2 equal groups of 3 = 6 **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Column: Whole Numbers: 56, 57; 0.91 away from 57. Second Column: Whole Numbers: 32, 33; 0.6 away from 33. **5.NF.B.3; 5.NBT.B.7**

Learning Opportunity 34

Part 1 – Numeracy Development **CCSS**

1. Top to Bottom: 0.25; 0.22; 0.31 **5.NBT.B.7**

2. Decimals: 0.6; 0.8; 0.9; 1.1; 1.2; 1.3; 1.4; 1.6; Proper Fractions/MN: $^{7}/_{10}$; $^{8}/_{10}$; $^{9}/_{10}$; $1\ ^{1}/_{10}$; $1\ ^{2}/_{10}$; $1\ ^{4}/_{10}$; $1\ ^{5}/_{10}$ **4.NF.B.3; 5.NBT.B.7**

3. 0.83; 1.03; 1.13; 1.33 **NOTE:** Decimals are increasing by 0.1 to the right. **5.NBT.B.7**

4. First Table: y = 23; 41 Second Table: y = 40; 50 **5.OA.B.3**

5. Decimal: 600 + 0 + 1 + 0 + 0.03 + 0.002; Fraction: $600 + 0 + 1 + {}^{0}/_{10} + {}^{3}/_{100} + {}^{2}/_{1,000}$ **5.NBT.A.3**

Part 2 – Application Practice

6. Given; 6 (i.e. 7 – 1 = 6); 28 (i.e. 7 x 4 = 28) **5.NBT.A.4; 5.NBT.B.5; 5.NBT.B.7**

7. $3\ ^{1}/_{2}$ (Mixed Number); $^{7}/_{2}$ (improper fraction). **NOTE:** Show examples of improper fractions, as needed. $7\ ^{1}/_{2} = {}^{7}/_{2}$ ***(Emphasize)*** **5.NBT.A.3**

8. **C – 9.3 kilometers**…; **NOTE:** Recommend stressing these types of examples, so students become familiar with decimals. **5.NBT.B.7**

9. 21; 9; 6; 36; **NOTE:** Recommend showing students a multiplication group model. (e.g. 21 feet = 3 equal groups of 7) **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **A.)** Whole Numbers: 25, 26; 0.34 away from 25. **B.)** First Column: 7, 1; Second Column: 20, 8; **5.NF.B.3; 5.NBT.B.7**

Learning Opportunity 35

Part 1 – Numeracy Development **CCSS**

1. Top to Bottom: 0.36; 0.6; 0.43 **5.NBT.B.7**

2. Decimals: 0.9; 1.1; 1.2; 1.3; 1.4; 1.5; 1.6; 1.8; Proper Fractions/M.N.: $^{8}/_{10}$; $1\ ^{0}/_{10}$; $1\ ^{1}/_{10}$; $1\ ^{3}/_{10}$; $1\ ^{4}/_{10}$; $1\ ^{5}/_{10}$; $1\ ^{6}/_{10}$; $1\ ^{7}/_{10}$ **4.NF.B.3; 5.NBT.B.7**

3. 0.57; 0.47; 0.27; 0.07 **NOTE:** Decimals are decreasing by 0.1 to the right. **5.NBT.B.7**

4. $4\ ^{2}/_{3}$ (Mixed Number); $^{14}/_{3}$ (improper fraction). **NOTE:** Show examples of improper fractions, as needed. $4\ ^{2}/_{3} = {}^{14}/_{3}$ ***(Emphasize)*** **5.NBT.A.3**

5. Top to Bottom: Given; sixty-seven hundredths **NOTE: 'and'** only appears as the decimal point in place value word form. **5.NBT.A.3**

Part 2 – Application Practice

6. 10 (i.e. 5 + 5 = 10); 1 (i.e. 3 – 2 = 1); 14 (i.e. 7 x 2 = 14) **5.NBT.A.4; 5.NBT.B.5; 5.NBT.B.7**

7. **C – 10 L** (i.e. 1.85 x 5 - - rounds to 2 x 5 - - which equals and estimates to 10) **5.NBT.A.4; 5.NBT.B.7**

8. **A – 16.1 meters**…; **NOTE:** Recommend stressing these types of examples, so students become familiar with decimals. **5.NBT.A.4; 5.NBT.B.7**

9. 24; 6; 36; 60; **NOTE:** Practice these measurements – use the measurement warm-ups on the Amara website. **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 10; 4; 5; **Note:** Start with 1 x number (20); 20 is even – divisible by 2; 20 ends in '0' divisible by 5. **4.OA.B.4; 5.NBT.B.5**

NOTE: This is a critical skill to learn. The math facts are key, but using this method the student always has the first fact – the identity property (1 x 20, in this case). If the number is even, divisible by 2, (2 and 10 work in this case). Now, the only numbers left are between 3 and 9. 3 doesn't work – 20 is NOT divisible by 3. At that point, the only numbers left are between 4 and 9. 20 is divisible by 4 **or** 5 – Hence, 4 and 5 work. No whole numbers left between 4 and 5. The compression method works every single time for a student to get all the factors of any number with simple divisibility rules.

Learning Opportunity 36

Part 1 – Numeracy Development **CCSS**

1. Top to Bottom: 0.9; 0.99; 0.95 **NOTE:** May need to review that 0.1 = 0.10 **5.NBT.B.7**

2. Decimals: 6.9; 7.1; 7.2; 7.3; 7.4; 7.6; 7.7; 7.8; Mixed Numbers: $6\ ^{8}/_{10}$; $6\ ^{9}/_{10}$; $7\ ^{0}/_{10}$; $7\ ^{1}/_{10}$; $7\ ^{3}/_{10}$; $7\ ^{4}/_{10}$; $7\ ^{5}/_{10}$; $7\ ^{6}/_{10}$; $7\ ^{7}/_{10}$ **4.NF.B.3; 5.NBT.B.7**

3. 0.07; 0.11; 0.13; 0.17; 0.19 **NOTE:** Decimals are increasing by 0.02 to the right. **5.NBT.B.7**

4. $3\ ^{1}/_{3}$ (Mixed Number); $^{10}/_{3} = 3\ ^{1}/_{3}$ ***(Emphasize the equality between Mixed Numbers and Improper Fractions)*** **5.NBT.A.3**

5. six and two-tenths; one and thirty-five hundredths **NOTE: 'and'** only appears as the decimal point in place value word form. **5.NBT.A.3**

Part 2 – Application Practice

6. 40 (i.e. 17 + 23 = 40); 14 (i.e. 27 – 13 = 14); 30 (i.e. 10 x 3 = 30) **5.NBT.A.4; 5.NBT.B.5; 5.NBT.B.7**

7. **B – 3,015** (i.e. 45 x 67 = 3,015) **NOTE:** Recommend showing group model: 45 equal groups with 67 in each group. **5.NBT.B.5**

8. **B – 130.11 meters**; **NOTE:** Recommend stressing these types of examples, so students become familiar with decimals. **5.NBT.A.4; 5.NBT.B.7**

9. 36; 60; 6; 48; **NOTE:** Practice these measurements – use the measurement warm-ups on the Amara website. **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 6; 12; 3; 4; **Note:** Start with 1 x number (12); 12 is even – divisible by 2; 12 divisible by 3. ***See Note LO 35*** **4.OA.B.4; 5.NBT.B.5**

Learning Opportunity 37

Part 1 – Numeracy Development **CCSS**

1. 3,875 **NOTE:** Work one multiplication algorithm a day until mastered. Stress the group model (i.e. 31 equal groups of 125, etc.). **5.NBT.B.5**

2. Improper Fractions: $^{6}/_{4}$; $^{7}/_{4}$; $^{9}/_{4}$; $^{10}/_{4}$; $^{11}/_{4}$; $^{12}/_{4}$; $^{14}/_{4}$; Mixed Numbers: $1\ ^{1}/_{4}$; $1\ ^{2}/_{4}$; $1\ ^{3}/_{4}$; $2\ ^{2}/_{4}$; $2\ ^{3}/_{4}$; $3\ ^{0}/_{4}$; $3\ ^{2}/_{4}$; **4.NF.B.3**

3. 0.24; 0.15; 0.12; 0.06; 0.03 **NOTE:** Decimals are decreasing by 0.03 to the right. **5.NBT.B.7**

4. $2\ ^{2}/_{4}$ (Mixed Number); $2\ ^{2}/_{4} = {}^{10}/_{4}$ **NOTE:** REFER to the number line in problem 2 to show students the relationship. **5.NBT.A.3**

5. six and two hundred ten hundredths; seven and five hundredths **5.NBT.A.3**

Part 2 – Application Practice

6. 90 (60 + 30 = 90); 60 (i.e. 70 – 10 = 60); 60 (i.e. 90 – 30 = 60) **5.NBT.A.4; 5.NBT.B.7**

7. **B – 72** (i.e. 1,080 ÷ 15 = 72) **NOTE:** Show the group model for division, so students understand the mathematics.) **5.NBT.B.6**

8. **D – H = (4 x 12) + 2**; **NOTE:** Show 4 equal groups of 12 inches equals 48 inches PLUS the extra 2 inches for a total of 50 inches. **5.OA.A.1; 5.MD.A.1**

9. **C – 3.555** **5.NBT.A.4**

10. 5,280; 2,640; 10,560; 15,840; **NOTE:** Recommend showing students a multiplication group model. (e.g. 10,560 = 2 equal groups of 5,280) **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 2, 8, 16 4 **4.OA.B.4; 5.NBT.B.5**

Learning Opportunity 38

Part 1 – Numeracy Development **CCSS**

1. 8,858 **NOTE:** Work one multiplication algorithm a day until mastered. Stress the group model (i.e. 43 equal groups of 206, etc.). **5.NBT.B.5**

2. Improper Fractions: $^{4}/_{3}$; $^{6}/_{3}$; $^{8}/_{3}$; $^{9}/_{3}$; $^{10}/_{3}$; $^{11}/_{3}$; $^{13}/_{3}$; Mixed Numbers: $1\ ^{1}/_{3}$; $1\ ^{2}/_{3}$; $2\ ^{1}/_{3}$; $3\ ^{0}/_{3}$; $3\ ^{1}/_{3}$; $3\ ^{2}/_{3}$; $4\ ^{1}/_{3}$; **4.NF.B.3**

3. First Row: 1: {**1**} 3: {**1, 3**} 5: {**1, 5**} 7: {**1, 7**} Second Row: 2: {**1, 2**} 4: {**1, 2, 4**} 6: {**1, 2, 3, 6**} 8: {**1, 2, 4, 8**} **5.NBT.B.5**

4. $2\ ^{2}/_{3}$ (Mixed Number); $^{8}/_{3} = 2\ ^{2}/_{3}$ **NOTE:** REFER to the number line in problem 2 to show students the relationship. **5.NBT.A.3**

5. thirteen and forty-nine thousandths **5.NBT.A.3**

Part 2 – Application Practice

6. 100 (40 + 60 = 100); 60 (i.e. 80 – 20 = 60); 1,400 (i.e. 70 x 20 = 1,400) **5.NBT.A.4; 5.NBT.B.5; 5.NBT.B.7**

7. **C – $^{7}/_{10}$ = 0.7** **5.NBT.B.7**

8. **C – D = 5,280 + (5,280 ÷ 2)**; **NOTE:** Refer to problem 10 for 1 ½ mile calculation. **5.OA.A.1; 5.MD.A.1**

9. **C – 24** (i.e. (133 + 155) ÷ 12)) **4.NBT.B.4; 5.NBT.B.6**

10. 5,280; 2,640; 1,320; 7,920; **NOTE:** Refer to problem 8 for the 1 ½ mile algorithmic process. **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **Proper Fractions:** $^{1}/_{10}$, $^{1}/_{3}$, $^{4}/_{5}$, $^{2}/_{5}$, $^{6}/_{8}$ **Improper Fractions:** $^{8}/_{5}$, $^{7}/_{3}$, $^{9}/_{2}$, $^{6}/_{6}$, $^{8}/_{8}$, $^{3}/_{1}$ **4.NF.B.3**
Mixed Numbers: $2\ ^{4}/_{5}$, $1\ ^{1}/_{3}$, $4\ ^{4}/_{7}$, $5\ ^{0}/_{8}$, $9\ ¾$, $10\ ^{1}/_{8}$
NOTE: Stress that $^{4}/_{4}$, $^{3}/_{3}$, $^{8}/_{8}$, $^{7}/_{1}$, $^{9}/_{1}$, $^{5}/_{1}$, etc. are all improper fractions.

Learning Opportunity 39

Part 1 – Numeracy Development **CCSS**

1. 46,735 **NOTE:** Work one multiplication algorithm a day until mastered. Stress the group model (i.e. 65 equal groups of 719, etc.). **5.NBT.B.5**

2. Improper Fractions: $^{2}/_{2}$; $^{4}/_{2}$; $^{6}/_{2}$; $^{7}/_{2}$; $^{8}/_{2}$; $^{9}/_{2}$; $^{10}/_{2}$; $^{12}/_{2}$ Mixed Numbers: $1\ ^{1}/_{2}$; $2\ ^{1}/_{2}$; $3\ ^{0}/_{2}$; $4\ ^{0}/_{2}$; $4\ ^{1}/_{2}$; $5\ ^{0}/_{2}$; $6\ ^{0}/_{2}$ **4.NF.B.3**

3. First Row: 1: {**1**} 3: {**1, 3**} 5: {**1, 5**} 7: {**1, 7**} Second Row: 2: {**1, 2**} 4: {**1, 2, 4**} 6: {**1, 2, 3, 6**} 8: {**1, 2, 4, 8**} **5.NBT.B.5**

4. $4\ ^{1}/_{2}$ (Mixed Number); $4\ ^{1}/_{2} = {}^{9}/_{2}$ **NOTE:** REFER to the number line in problem 2 to show students the relationship. **5.NBT.A.3**

5. twenty-one and forty hundredths **5.NBT.A.3**

Part 2 – Application Practice

6. 1.10; 1.14; 1.22; 1.26; **A -** Decimals are increasing by 0.04 to the right. **5.NBT.B.7**

7. **B – $^{3}/_{10}$ = 0.3** **5.NBT.B.7**

8. **D – T = (145 x 23)**; **NOTE:** Show MULTIPLICATION group model so students understand the mathematics. **5.NBT.B.5**

9. **B – 13 jeans**; (i.e. 156 ÷ 12 = 13) **NOTE:** ***ALL*** STACKS OF JEANS CONTAIN 13 JEANS. This problem illustrates division meaning. **5.NBT.B.6**

10. 1; 3; 2; 5; **NOTE:** Recommend giving physical examples of ounces and pounds – Use Amara measurement warm-ups) **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **Proper Fractions:** $^{1}/_{9}$, $^{5}/_{10}$, $^{1}/_{2}$, $^{6}/_{9}$, $^{3}/_{6}$, $^{2}/_{6}$, $^{8}/_{9}$ **Improper Fractions:** $^{5}/_{5}$, $^{9}/_{1}$, $^{2}/_{2}$, $^{7}/_{2}$, $^{4}/_{1}$ **4.NF.B.3**
Mixed Numbers: $7\ ^{3}/_{5}$, $37\ ^{8}/_{10}$, $4\ ^{0}/_{5}$, $14\ ^{1}/_{4}$, $26\ ^{5}/_{8}$
NOTE: Stress that $^{4}/_{4}$, $^{3}/_{3}$, $^{8}/_{8}$, $^{7}/_{1}$, $^{9}/_{1}$, $^{5}/_{1}$, etc. are all improper fractions.

Learning Opportunity 40

Part 1 – Numeracy Development **CCSS**

1. 25,437 **NOTE:** Work one multiplication algorithm a day until mastered. Stress the group model (i.e. 61 equal groups of 417, etc.). **5.NBT.B.5**

2. Improper Fractions: $^{8}/_{8}$; $^{10}/_{8}$; $^{12}/_{8}$; $^{13}/_{8}$; $^{14}/_{8}$; $^{15}/_{8}$; $^{16}/_{8}$; $^{18}/_{8}$; Mixed Numbers: $1\ ^{1}/_{8}$; $1\ ^{2}/_{8}$; $1\ ^{3}/_{8}$; $1\ ^{4}/_{8}$; $1\ ^{5}/_{8}$; $1\ ^{6}/_{8}$; $1\ ^{7}/_{8}$; $2\ ^{0}/_{8}$; $2\ ^{2}/_{8}$ **4.NF.B.3**

3. First Column: 4: {**1, 2, 4**} 5: {**1, 5**} 6: {**1, 2, 3, 6**} 7: {**1, 7**} Second Column: 8: {**1, 2, 4, 8**} 9: {**1, 3, 9**} 10: {**1, 2, 5, 10**} 11: {**1, 11**} **5.NBT.B.5**
Third Column: 12: {**1, 2, 3, 4, 6, 12**} 13: {**1, 13**} 14: {**1, 2, 7, 14**} 15: {**1, 3, 5, 15**}

4. 20; 6 **NOTE:** Students will need to be shown that when a number is placed adjacent to a parenthesis it means multiply**.** **5.OA.A.1**

5. First Row: Given; 5: **P**; 14: **C**; 15: **C**; Second Row: Given; 9: **C**; 13: **P**; 6: **C**; **4.OA.B.4**

Part 2 – Application Practice

6. 0.87; 0.47; 0.37; 0.17; 0.07; **B** – Decimals are decreasing by 0.1 **5.NBT.A.4; 5.NBT.B.7**

7. **D – $^{6}/_{10}$ = 0.6** **5.NBT.A.3**

8. **A – $ 7.86**; (i.e. 20 – (4.15 + 7.99) = 7.86) **4.NBT.B.4**

9. **B – 314.5 km.** (i.e. 239.5 + 75 = 314.5) **5.NBT.A.4**

10. 2; 4; 5; 3; **NOTE:** Recommend showing students a division group model. (e.g. 32 = 2 equal groups of 16) **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 3; 10; 5 **3.NF.A.2**

Learning Opportunity 41

Part 1 – Numeracy Development **CCSS**

1. 9,768 **NOTE:** Work one multiplication algorithm a day until mastered. Stress the group model (i.e. 22 equal groups of 444, etc.). **5.NBT.B.5**

2. Improper Fractions: $^{4}/_{4}$; $^{5}/_{4}$; $^{6}/_{4}$; $^{7}/_{4}$; $^{8}/_{4}$; $^{9}/_{4}$; $^{10}/_{4}$; $^{11}/_{4}$; $^{12}/_{4}$; $^{13}/_{4}$; $^{14}/_{4}$; Mixed Numbers: $1\ ^{0}/_{4}$; $1\ ^{1}/_{4}$; $1\ ^{2}/_{4}$; $1\ ^{3}/_{4}$; $2\ ^{0}/_{4}$; $2\ ^{1}/_{4}$; $2\ ^{2}/_{4}$; $2\ ^{3}/_{4}$; $3\ ^{1}/_{4}$; $3\ ^{2}/_{4}$ **4.NF.B.3**

3. First Column: 8: {**1, 2, 4, 8**} 9: {**1, 3, 9**} 10: {**1, 2, 5, 10**} 11: {**1, 11**} Second Column: 12: {**1, 2, 3, 4, 6, 12**} 13: {**1, 13**} 14: {**1, 2, 7, 14**} 15: {**1, 3, 5, 15**} **5.NBT.B.5**
Third Column: 16: {**1, 2, 4, 8, 16**} 17: {**1, 17**} 18: {**1, 2, 3, 6, 9, 18**} 19: {**1, 19**}

4. 32; 40 **NOTE:** Students will need to be shown that when a number is placed adjacent to a parenthesis it means multiply**.** **5.OA.A.1**

5. First Row: 7: **P**; 8: **C**; 17: **P**; 18: **C**; Second Row: 9: **C**; 2: **P**; 14: **C**; 19: **P** **4.OA.B.4**

Part 2 – Application Practice

6. 5 R 1; check by multiplication; 53 R 2; check by multiplication; 535 R 3; check by multiplication; **5.NBT.B.5; 5.NBT.B.6**

7. **D – $1\ ^{7}/_{10}$ = 1.7** **5.NBT.A.3**

8. **C – 6 cars**; (i.e. 26 ÷ 5 = 5 R 1) **NOTE:** Draw 6 rectangle for each car. Place 5 kids in 5 rectangles and 1 kid in one rectangle = 6 cars **5.NBT.B.6**

9. **B – 450 feet.** (i.e. 150 x 3 = 450) **NOTE:** Use the group model for multiplication – so students can understand the mathematics. **5.MD.A.1**

10. 32; 60; 48; 160; **NOTE:** Recommend showing students a division group model. (e.g. 32 = 2 equal groups of 16) **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 2; 4; 8 **3.NF.A.2**

Learning Opportunity 42

Part 1 – Numeracy Development **CCSS**

1. Proper/Improper Fractions: $^{0}/_{4}$; $^{1}/_{4}$; $^{2}/_{4}$; $^{3}/_{4}$; $^{4}/_{4}$; $^{5}/_{4}$; $^{6}/_{4}$; $^{7}/_{4}$; $^{8}/_{4}$; $^{9}/_{4}$; $^{10}/_{4}$; Mixed Numbers: $1\ ^{0}/_{4}$; $1\ ^{1}/_{4}$; $1\ ^{2}/_{4}$; $1\ ^{3}/_{4}$; $2\ ^{0}/_{4}$; $2\ ^{1}/_{4}$; ; $2\ ^{2}/_{4}$ **4.NF.B.3**

2. First Column: 8: {**1, 2, 4, 8**} 9: {**1, 3, 9**} 10: {**1, 2, 5, 10**} 11: {**1, 11**} Second Column: 12: {**1, 2, 3, 4, 6, 12**} 13: {**1, 13**} 14: {**1, 2, 7, 14**} 15: {**1, 3, 5, 15**} **5.NBT.B.5**
Third Column: 16: {**1, 2, 4, 8, 16**} 17: {**1, 17**} 18: {**1, 2, 3, 6, 9, 18**} 19: {**1, 19**}

3. 25; 60 **NOTE:** Students will need to be shown that when a number is placed adjacent to a parenthesis it means multiply**.** **5.OA.A.1**

4. First Row: 3: **P**; 9: **C**; 19: **P**; 16: **C**; Second Row: 5: **P**; 8: **C**; 13: **P**; 18: **C** **4.OA.B.4**

Part 2 – Application Practice

5. 4 R 2; 44 R 5; 449 R 1; **NOTE:** students should check their division on these problems by multiplication; **5.NBT.B.5; 5.NBT.B.6**

6. 0.5 x 0.4 = **0.20 = $^{20}/_{100}$** **NOTE:** Students should understand that the double cross hatch area is the product of two decimals. **5.NBT.B.7**

7. **A – 5 boxes** (i.e. 26 ÷ 6 = 4 R 2) **NOTE:** Draw 5 rectangle for each box. Place 6 toys in 4 rectangles and 2 toys in one rectangle = 5 boxes **5.NBT.B.6**

8. **24**; (i.e. 6 x 4 = 24) **NOTE:** *Emphasize and review area is width x length. Use in volume calculation for Base (area) x height*. **5.NBT.B.5**

9. 4,000; 10,000 **NOTE:** Recommend giving physical examples of tons and pounds – Use Amara measurement warm-ups) **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Column: Given; Given; 15: **5;** Second Column: 10: **2, 5, 10;** 6: **2;** 25: **5;** Third Column: 12: **2;** 50: **2, 5, 10;** 36: **2** **4.OA.A.4**

Learning Opportunity 43

Part 1 – Numeracy Development **CCSS**

1. First Column: Given; Given; 9.0 = 9.00 = 9.000 Second Column: 15.0 = 15.00 = 15.000; 1.0 = 1.00 = 1.000; 34.0 = 34.00 = 34.000 **5.NBT.A.3**

2. First Column: 2: **P**; 9: **C**; 4: **C**; Second Column: 21: **C**; 16: **P**; 23: **P**; Third Column: 25: **C**; 30: **C**; 55: **C** **4.OA.B.4**

3. 0.3; 0.2; 1.01 **NOTE:** Highly recommend students write quotients in both decimal and fraction (e.g. 0.3 = $^{3}/_{10}$) **5.NBT.B.7**

4. 20: {**1, 2, 4, 5, 10, 20**} 21: {**1, 3, 7, 21**} 22: {**1, 2, 11, 22**} 23: {**1, 23**} **5.NBT.B.5**

5. 5(3 + 8); 6 + (3 x 5); 12 x (9 – 2) **5.OA.A.2**

6. 0.251 < 0.26; 5.2 = 5.200; 0.46 < 0.6; **NOTE:** Stress adding zeros has no effect on decimal and *think* "Money". **5.NBT.A.3**

Part 2 – Application Practice

7. 7 R 13; 7 R 31 Check students work to ensure they are verifying quotients by multiplication – and adding remainder. **5.NBT.B.5; 5.NBT.B.6**

8. 0.2 x 0.4 = **0.08 = $^{8}/_{100}$**; **NOTE:** Students must understand that the overlap or double cross-hatch is the decimal product. **5.NBT.B.7**

9. **B – 14,000**; (i.e. 2,000 x (2 + (2 + 3)) = 2,000 x 7 = 14,000 pounds **NOTE: Use Amara daily measurement warm-ups. FREE.** **5.MD.A.1**

10. **24** cubic units; (i.e. Volume = L x W x H = 4 x 3 x 2 = 24) **NOTE:** Stress cubic units. Contrast with perimeter (linear units) and Area (sq. units). **5.MD.C.3**

11. 14,000; 20,000 **NOTE:** Recommend showing students a multiplication group model to understand the mathematics. **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Column: 12: **2**; 60; **2, 5, 10**; 18: **2**; Second Column: 70: **2, 5, 10;** 88: **2;** 55: **5;** Third Column: 36: **2;** 120: **2, 5, 10;** 75: **5** **4.OA.A.4**

Learning Opportunity 44

Part 1 – Numeracy Development **CCSS**

1. First Column: Given; 1.1; 2.5; Second Column: 3.0; 3.1; 1.5 **NOTE:** Add-up to next whole number. (i.e. 8.9 to 9.0 is 0.1; 1 more = ***1.1***) **5.NBT.B.7**

2. 0.50; **NOTE:** Computational work is first problem in Number 3. (physical example: 3 equal groups of 0.50 or 50 cents = $1.50) **5.NBT.B.7**

3. 0.50; 0.4; 6.2 **NOTE:** Highly recommend students write quotients in both decimal and fraction (e.g. 0.50 = $^{50}/_{100}$) **5.NBT.B.7**

4. 20: {**1, 2, 4, 5, 10, 20**} 21: {**1, 3, 7, 21**} 22: {**1, 2, 11, 22**} 23: {**1, 23**} **5.NBT.B.5**

5. (4 x 9) – 7; (12 ÷ 3) x 6; 12(5 + 11) **5.OA.A.2**

6. 0.02 > 0.006; 1.20 > 1.1; 0.7 = 0.700; **NOTE:** Stress adding zeros has no effect on decimal and *think* "Money". **5.NBT.A.3**

Part 2 – Application Practice

7. 14 R 6; 10 R 25 Check students work to ensure they are verifying quotients by multiplication – and adding remainder. **5.NBT.B.5; 5.NBT.B.6**

8. 0.2 x 0.7 = **0.14 = $^{14}/_{100}$**; **NOTE:** Students must understand that the overlap or double cross-hatch is the decimal product. **5.NBT.B.7**

9. **B – 23**; (i.e. 873 ÷ 25 = 34 R 23). Or, 34 groups of 25 and one stack (remainder) of 23. **5.NBT.B.6**

10. **12** cubic units; (i.e. Volume = L x W x H = 2 x 3 x 2 = 12) **NOTE:** Stress cubic units. Contrast with perimeter (linear units) and Area (sq. units). **5.MD.C.3**

11. 10,560; 15,840 **NOTE:** Recommend showing students a multiplication group model to understand the mathematics. **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Column: 18: **3,6,9**; 66; **3, 6**; 15: **3**; Second Column: 45: **3, 9;** 33: **3;** 27: **3, 9;** Third Column: 36: **3, 6, 9;** 81: **3, 9;** 72: **3, 6, 9** **4.OA.A.4**

Learning Opportunity 45

Part 1 – Numeracy Development **CCSS**

1. First Column: 4.1; 1.0; 2.2; Second Column: 7.0; 2.7; 3.5 **NOTE:** Add-up to next whole number. (i.e. 5.9 to 6.0 is 0.1; 4 more = ***4.1***) **5.NBT.B.7**

2. 0.90; **NOTE:** Computational work is first problem in Number 3. (physical example: 2 equal groups of 0.90 or 90 cents = $1.80) **5.NBT.B.7**

3. 0.90; 0.3; 7.1 **NOTE:** Highly recommend students write quotients in both decimal and fraction (e.g. 0.90 = $^{90}/_{100}$) **5.NBT.B.7**

4. 24: {**1, 2, 3, 4, 6, 8, 12, 24**} 25: {**1, 5, 25**} 27: {**1, 3, 9, 27**} 28: {**1, 2, 4, 7, 14, 28**} **5.NBT.B.5**

5. 17; 20 **5.OA.B.3**

6. 11; 3; 5 **5.OA.A.1**

7. 6.07 > 6.009; 0.201 < 0.3; 4.1 = 4.100; **NOTE:** Stress adding zeros has no effect on decimal and *think* "Money". **5.NBT.A.3**

Part 2 – Application Practice

8. 22 R 5; 22 in circles and 5 in Remainder box. **NOTE:** Diagram allows students to visualize complicated mathematics. **5.NBT.B.5; 5.NBT.B.6**

9. 0.5 x 0.5 = **0.25 = $^{25}/_{100}$**; **NOTE:** Students must understand that the overlap or double cross-hatch is the decimal product. **5.NBT.B.7**

10. **D – $ 3.10**; (i.e. $12.40 ÷ 4 = $ 3.10). Or, 4 equal groups of $ 3.10 equals $ 12.40. **5.NBT.B.6**

11. **12** cubic units; (i.e. Volume = L x W x H = 4 x 3 x 1 = 12) **NOTE:** Stress cubic units. Contrast with perimeter (linear units) and Area (sq. units). **5.MD.C.3**

12. 60; 96 **NOTE:** Recommend showing students a multiplication group model to understand the mathematics. **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: First Column: 12: **3, 6**; 99; **3, 6**; 63: **3, 6**; Second Column: 66: **3, 6;** 51: **3;** 60: **3, 6;** Third Column: 36: **3, 6, 9;** 27: **3, 9;** 18: **3, 6, 9** **4.OA.A.4**

Learning Opportunity 46

Part 1 – Numeracy Development **CCSS**

1. First Column: 6.1; 7.5; 8.2; Second Column: 5.4; 4.3; 9.5 **NOTE:** Add-up to next whole number. (i.e. 3.9 to 4.0 is 0.1; 6 more = ***6.1***) **5.NBT.B.7**

2. **D – 0.80 ÷ 4 = 0.20**; **NOTE:** (physical example: 4 equal groups of 0.20 or 20 cents = $0.80) **5.NBT.B.7**

3. 0.43; 3.1; **NOTE:** Highly recommend students write quotients in both decimal and fraction (e.g. 0.43 = $^{43}/_{100}$) **5.NBT.B.7**

4. 24: {**1, 2, 3, 4, 6, 8, 12, 24**} 25: {**1, 5, 25**} 27: {**1, 3, 9, 27**} 28: {**1, 2, 4, 7, 14, 28**} **5.NBT.B.5**

5. 12; 15 **NOTE:** Stress the multiplication – start with the parenthesis, then multiply. Only practice is needed. **5.OA.B.3**

6. 40; 25; 8 **5.OA.A.1**

7. 0.429 < 0.5; 0.2 < 0.391; 0.1 = 0.100; **NOTE:** Stress adding zeros has no effect on decimal and *think* "Money". **5.NBT.A.3**

Part 2 – Application Practice

8. 16 R 31; 847 in large rectangle; 16 in circles; 51 in small rectangle; R = 31. **5.NBT.B.5; 5.NBT.B.6**

9. 0.3 x 0.8 = **0.24 = $^{24}/_{100}$**; **NOTE:** Students must understand that the overlap or double cross-hatch is the decimal product. **5.NBT.B.7**

10. **C – $7.75**; (i.e. $2.50 x 5 = $12.50, then subtract $4.75 = $7.75). **4.NBT.B.4; 5.NBT.B.5**

11. **36** cubic units; (i.e. Volume = L x W x H = 4 x 3 x 3 = 36) **NOTE:** Stress cubic units. Contrast with perimeter (linear units) and Area (sq. units). **5.MD.C.3**

12. 3; 6 **NOTE:** Recommend showing students a multiplication/division group model to understand the mathematics. **5.MD.A.1; 5.NBT.B.5/6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 10.0; 1; 0.35; 2; 0.212; 3 **NOTE:** Require students to use arrows to count decimal places. **5.NBT.B.7**

Learning Opportunity 47

Part 1 – Numeracy Development **CCSS**

1. **C – 0.60 ÷ 3 = 0.20**; **NOTE:** (physical example: 3 equal groups of 0.20 or 20 cents = $0.60) **5.NBT.B.7**

2. 1.61; 36.6; 0.20 **5.NBT.B.7**

3. 0.06; 4.2; **NOTE:** Highly recommend students write quotients in both decimal and fraction (e.g. 0.06 = $^{6}/_{100}$) **5.NBT.B.7**

4. 30: {**1, 2, 3, 5, 6, 10, 15, 30**} 32: {**1, 2, 4, 8, 16, 32**} 33: {**1, 3, 11, 33**} 36: {**1, 2, 3, 4, 6, 9, 12, 18, 36**} **5.NBT.B.5**

5. **C – 0.70 x 0.70 = 0.49** **5.NBT.B.7**

6. 35; 49 **NOTE:** Stress the multiplication – start with the parenthesis, then multiply. Only practice is needed. **5.OA.B.3**

Part 2 – Application Practice

7. 94 R 6; 852 in large rectangle; 94 in circles; 9 in small rectangle; R = 6. **5.NBT.B.5; 5.NBT.B.6**

8. **B – 18.5 miles;** (i.e. 3.7 miles x 5 = 18.5 miles) **5.NBT.B.7**

9. **C – 0.36 = $^{36}/_{100}$**; (i.e. 0.4 x 0.9 = 0.36) **5.NBT.B.7**

10. **30** cubic units; (i.e. Volume = L x W x H = 5 x 2 x 3 = 30) **NOTE:** Stress cubic units. Contrast with perimeter (linear units) and Area (sq. units). **5.MD.C.3**

11. 5; ½; 10,560; 15 **5.MD.A.1; 5.NBT.B.5/6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 19.0; 1; 6.12; 2; 0.045; 3; 4.564; 3; 2.12; 2 **NOTE:** Require students to use arrows to count decimal places. **5.NBT.B.7**

Learning Opportunity 48

Part 1 – Numeracy Development **CCSS**

1. **B – 2.4 ÷ 3 = 0.80**; **NOTE:** (physical example: 3 equal groups of 0.80 or 80 cents = $2.40) **5.NBT.B.7**

2. 3.91; 12.3; 0.16 **5.NBT.B.7**

3. 0.20; 0.32; **NOTE:** Highly recommend students write quotients in both decimal and fraction (e.g. 0.02 = $^{2}/_{100}$) **5.NBT.B.7**

4. 30: {**1, 2, 3, 5, 6, 10, 15, 30**} 32: {**1, 2, 4, 8, 16, 32**} 33: {**1, 3, 11, 33**} 36: {**1, 2, 3, 4, 6, 9, 12, 18, 36**} **5.NBT.B.5**

5. **C – 0.70 x 0.30 = 0.21** **5.NBT.B.7**

6. 15; 25 **5.OA.B.3**

Part 2 – Application Practice

7. 47.7; 47.7 in large rectangle; 5.3 in circles; **5.NBT.B.7**

8. **A – 5.22 liters;** (i.e. 0.87 liters x 6 = 5.22 liters) **5.NBT.B.7**

9. 1 $^{1}/_{2}$ (Mixed Number); 1 $^{1}/_{2}$ = $^{3}/_{2}$ **NOTE:** Show equality. Extend problem to decimal equality: **1 $^{1}/_{2}$ = $^{3}/_{2}$ = 1.5** **5.NBT.A.3**

10. **B – 0.5 kg.**; (i.e. 4.5 ÷ 9 = 0.5) **5.NBT.B.7**

11. **2** units; (Volume = L x W x H) ; (18 = 3 x 3 x **H**) ; (18 = 9 x **H**) **NOTE:** Plug the numbers in the Volume formula. **H = 2** is an easy visual. **5.MD.C.3**

12. 32; 256; 96; 32 **5.MD.A.1; 5.NBT.B.5/6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 1.6; 1; 6.72; 2; 0.225; 3; 8.112; 3; 1.76; 2 **NOTE:** Require students to use arrows to count decimal places. **5.NBT.B.7**

Learning Opportunity 49

Part 1 – Numeracy Development **CCSS**

1. **C – 2.1 ÷ 3 = 0.7**; **NOTE:** (physical example: 3 equal groups of 0.70 or 70 cents = $2.10) **5.NBT.B.7**
2. 4.56; 25.2; 0.12 **5.NBT.B.7**
3. Check students' work. **NOTE:** Stress any decimal less than 1 multiplied by a whole number will be less than that number. **5.NBT.B.7**
4. **D:** 0.1; 0.2; 0.3; 0.4; 0.5; 0.6; 0.7; 0.8; 0.9; 1.1; 1.2; **PF/IF:** $^{0}/_{10}$; $^{1}/_{10}$; $^{2}/_{10}$; $^{3}/_{10}$; $^{4}/_{10}$; $^{5}/_{10}$; $^{6}/_{10}$; $^{7}/_{10}$; $^{8}/_{10}$; $^{9}/_{10}$; $^{10}/_{10}$; $^{11}/_{10}$; $^{12}/_{10}$ **MN:** $1\ ^{0}/_{10}$; $1\ ^{1}/_{10}$; $1\ ^{2}/_{10}$ **5.NBT.B.7**

Part 2 – Application Practice

5. 41.0; 41.0 in large rectangle; 8.2 in circles; **5.NBT.B.7**
6. **D – 17.5 liters;** (i.e. 2.5 liters x 7 = 17.5 liters) **5.NBT.B.7**
7. $2\ ^{1}/_{3}$ (Mixed Number); $2\ ^{1}/_{3} = {}^{7}/_{3}$ **5.NBT.A.3**
8. **B – 0.04 seconds**; (i.e. 10.2 – 10.16 = 0.04) **5.NBT.B.7**
9. **3** units; (Volume = L x W x H) ; (30 = 5 x 2 x **H**) ; (30 = 10 x **H**) **NOTE:** Plug the numbers in the Volume formula. **H = 3** is an easy visual. **5.MD.C.5**
10. 80; 384; 64; 24 **5.MD.A.1; 5.NBT.B.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 8; 60; 150 ÷ 50 = 3; 210 ÷ 3 = 70; **NOTE:** Students MUST know their math facts in 5th grade. **5.NBT.B.6**

Learning Opportunity 50

Part 1 – Numeracy Development **CCSS**

1. **B – 3.5 ÷ 7 = 0.5**; **NOTE:** (physical example: 7 equal groups of 0.50 or 50 cents = $3.50) **5.NBT.B.7**
2. First Column: Given; $^{16}/_{10}$; Second Column: $^{17}/_{10}$; $^{10}/_{10}$ **5.NBT.B.7**
3. Check students' work. **NOTE:** Stress any decimal less than 1 multiplied by a whole number will be less than that number. **5.NBT.B.7**
4. **D:** 0.5; 0.6; 0.7; 0.8; 0.9; 1.1; 1.2; 1.3; 1.4; 1.5; 1.6; 1.7 **PF/IF:** $^{5}/_{10}$; $^{6}/_{10}$; $^{7}/_{10}$; $^{8}/_{10}$; $^{9}/_{10}$; $^{11}/_{10}$; $^{12}/_{10}$; $^{13}/_{10}$; $^{14}/_{10}$; $^{15}/_{10}$; $^{17}/_{10}$ **5.NBT.B.7**
   MN: $1\ ^{0}/_{10}$; $1\ ^{1}/_{10}$; $1\ ^{2}/_{10}$; $1\ ^{3}/_{10}$; $1\ ^{4}/_{10}$; $1\ ^{5}/_{10}$; $1\ ^{6}/_{10}$; $1\ ^{7}/_{10}$

Part 2 – Application Practice

5. 82.8; 82.8 in large rectangle; 6.9 in circles; 12 in small rectangle **5.NBT.B.7**
6. **YES;** **NOTE:** Stress this equality on fractional number lines. Otherwise, the MN, IF and D 'float' independently of one another. **5.NBT.B.7**
7. $1\ ^{3}/_{4}$ (Mixed Number); $1\ ^{3}/_{4} = {}^{7}/_{4}$ **5.NBT.A.3**
8. **B – 21.35 meters**; (i.e. 71.2 – 49.85 = 21.35) **5.NBT.B.7**
9. **6** units; (Volume = L x W x H) ; (120 = 5 x 4 x **H**) ; (120 = 20 x **H**) **NOTE:** Plug the numbers in the Volume formula. **H = 6** is an easy visual. **5.MD.C.5**
10. 2; 12; 1; 2 **5.MD.A.1; 5.NBT.B.5/6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 5; 100; 180 ÷ 20 = 9; 250 ÷ 5 = 50; **NOTE:** Students MUST know their math facts in 5th grade. **5.NBT.B.6**

Learning Opportunity 51

Part 1 – Numeracy Development **CCSS**

1. 56 blocks (each $^{1}/_{100}$); Less than 1.4; $0.56 = {}^{56}/_{100}$ **5.NBT.B.7**
2. First Column: Given; $^{31}/_{10}$; Second Column: $^{19}/_{4}$; $^{24}/_{8}$ **5.NF.A.1**
3. Check students' work. **NOTE:** Stress any decimal less than 1 multiplied by a whole number will be less than that number. **5.NBT.B.7**
4. 2; shade 2 out of 4; 6; shade 3 out of 4; shade 6 out of 8 **3.NF.A.3**
5. 20; 28 **5.OA.B.3**

Part 2 – Application Practice

6. **B – $^{4}/_{7}$** (i.e. Prime numbers: 7, 3, 5 and 11 – 4 prime numbers over a total of 7 numbers = $^{4}/_{7}$) **4.OA.B.4; 5.NF.A.1**
7. **B – 36** (i.e. 1,620 ÷ 45 = 36. Hence, there are 36 coins in every stack, not only the 5th stack) **5.NBT.B.6**
8. 60 blocks; (i.e. Volume = 5 x 4 x 3 = 60 blocks) **5.MD.C.5**
9. **C - 70 m**; (i.e. 432 is changed to 420, and 420 ÷ 6 = 70 meters) **5.NBT.B.6**
10. **A S = 47 – (2 x 14) Note:** isosceles - - 'iso' equal…so, isosceles means 2 equal legs (of the triangle). **5.OA.A.1**
11. 2.5; 2,000; 1.05; 2,500 **5.MD.A.1; 5.NBT.B.5/6/7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 2; 3; 5; 8; 12; 45; 100; BOTH products are 7 **NOTE:** It is highly recommended that the teacher stress that equivalent fractions are mathematically correct by the identity property. Hence, the student is really multiplying or dividing by 1 whole. For example, $^{2}/_{3} = {}^{6}/_{9}$ only because we are multiplying by 1 whole or equivalently, $^{3}/_{3}$. **5.NF.A.1**

Learning Opportunity 52

Part 1 – Numeracy Development **CCSS**

1. 80 blocks (each $^{1}/_{100}$); Less than 1.6; $0.80 = {}^{80}/_{100}$ **5.NBT.B.7**

2. First Column: $^{21}/_{4}$; $^{8}/_{5}$; Second Column: $^{43}/_{10}$; $^{63}/_{9}$ **5.NF.A.1**

3. Common Multiples: 6, 12, 18, … **LCM** = 6 **NOTE:** Skill will be needed for fractions with unlike denominators. Practice, as needed. **4.NF.A.2**

4. 4; shade 2 out of 4 and shade 4 out of 8; 8; shade 1 out of 2; shade 4 out of 8 **3.NF.A.3**

5. 9; 21 **5.OA.B.3**

Part 2 – Application Practice

6. **C – $^{5}/_{6}$** (i.e. Composite numbers: 6, 10, 4, 21 and 25 – 5 composite numbers over a total of 6 numbers = $^{5}/_{6}$) **4.OA.B.4; 5.NF.A.1**

7. 30 cm^3 (i.e. Volume = 5 cm x 2 cm x 3 cm = 30 cubic centimeters) **NOTE:** Stress units – cubic cm. Area = square cm. Per. = cm. **5.MD.C.3**

8. $^{2}/_{5}$; (i.e. $^{5}/_{5} – (^{2}/_{5} + {}^{1}/_{5}) = {}^{2}/_{5}$) **NOTE:** Review as needed. Fractions must have same denominator to add and subtract, correctly. **4.NF.B.3**

9. **C – 3.8 km**; (i.e. 5 km – 1.2 km = 3.8 km – **NOTE:** change 1,200 meters to 1.2 km) **5.MD.A.1**

10. 228 Stars; (i.e. 19 x 12 = 12 x 19 = 228 stars) **5.NBT.B.5**

11. 5; 2.7; 1,500 **5.MD.A.1; 5.NBT.B.5/6/7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 6; 6; $^{2}/_{5}$; $^{6}/_{15}$; $^{6}/_{8}$; ¾; **1** **NOTE:** It is highly recommended that the teacher stress that equivalent fractions are mathematically correct by the identity property. Hence, the student is really multiplying or dividing by 1 whole. For example, $^{2}/_{3} = {}^{6}/_{9}$ only because we are multiplying by 1 whole or equivalently, $^{3}/_{3}$. **5.NF.A.1**

Learning Opportunity 53

Part 1 – Numeracy Development **CCSS**

1. 84 blocks (each $^{1}/_{100}$); Less than 1.2; $0.84 = {}^{84}/_{100}$ **5.NBT.B.7**

2. First Column: $^{3}/_{1}$; $^{37}/_{5}$; Second Column: $^{19}/_{10}$; $^{26}/_{8}$ **5.NF.A.1**

3. Common Multiples: 4, 8, 12, 16, …**LCM** = 4 **NOTE:** Skill will be needed for fractions with unlike denominators. Practice, as needed. **4.NF.A.2**

4. 6; shade 1 out of 2 and shade 2 out of 6; 8; shade 8 out of 10; shade 4 out of 5 **3.NF.A.3**

5. Rule = 7; y = **7**(x) - Multiplicative Table. **5.OA.B.3**

Part 2 – Application Practice

6. Label the number line: $^{1}/_{7}$, $^{2}/_{7}$, $^{3}/_{7}$, $^{4}/_{7}$, $^{5}/_{7}$, $^{6}/_{7}$; Draw arrows or shade $^{3}/_{7}$, and $^{2}/_{7}$, for a total of $^{5}/_{7}$ **4.NF.B.3**

7. **3** units; (Volume = L x W x H) ; (36 = 6 x 2 x **H**) ; (36 = 12 x **H**) **NOTE:** Plug the numbers in the Volume formula. **H = 3** is an easy visual. **5.MD.C.5**

8. $^{3}/_{8}$; (i.e. ½ x ¾ = $^{3}/_{8}$) **NOTE:** Practice as needed; Students should count the double hatch blocks – 3 of 8 total. **5.NF.B.4**

9. **C – $^{3}/_{8}$**; (i.e. $1 = {}^{8}/_{8} – {}^{5}/_{8} = {}^{3}/_{8}$) **4.NF.B.3**

10. 544 ft^2 (i.e. 16 x 34 = 34 x 16 = 544) **NOTE:** Recommend stressing area versus volume in units (cubic feet versus square feet) . **5.NBT.B.5**

11. 200; 3; 1.5 **5.MD.A.1; 5.NBT.B.5/6**

Part 3 – Reflection and Conceptual Understanding

Student Answer: $^{7}/_{2}$; $^{28}/_{8}$; $^{8}/_{8}$; $^{16}/_{16}$; $^{12}/_{3}$; $^{4}/_{1}$ 1; **NOTE:** Students are actually multiplying/dividing by 1 for equivalent fractions. **3.NF.A.3**

Learning Opportunity 54

Part 1 – Numeracy Development **CCSS**

1. First Column: 6; 25; Second Column: 4; 4 **3.NF.A.3**

2. First Column: $^{6}/_{1}$; $^{29}/_{5}$; Second Column: $^{20}/_{10}$; $^{22}/_{8}$ **5.NF.A.1**

3. Common Multiples: 12, 24, …**LCM** = 12 **NOTE:** Skill will be needed for fractions with unlike denominators. Practice, as needed. **4.NF.A.2**

4. First Column: $^{6}/_{12}$; $^{2}/_{10}$; Second Column: $^{8}/_{6}$; $^{7}/_{4}$ **5.NF.B.4**

5. 212; 0.21; 4.6 **5.NBT.B.6/7**

6. Rule = 4; y = **4**(x) - Multiplicative Table. **5.OA.B.3**

Part 2 – Application Practice

7. **y:** 1, 3, 5, 6, 9, 11; Check student graphing work for accuracy. The dots should be a straight linear equation of y = x + 1 **5.G.A.1/2**

8. W = 2 meters; (i.e. Volume = 80 = 10 x 4 x W = 80 = 40 x W and W = 2) **5.MD.C.5**

9. $^{6}/_{12}$; (i.e. $^{2}/_{3}$ x ¾ = $^{3}/_{8}$) **NOTE:** Practice as needed; Students should count the double hatch blocks – 6 of 12 total. **5.NF.B.4**

10. **$^{3}/_{9}$;** (i.e. $1 = {}^{9}/_{9} – ({}^{4}/_{9} + {}^{2}/_{9})$) **4.NF.B.3**

11. 600; 4.8 **5.MD.A.1; 5.NBT.B.5/6/7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: A. $^{6}/_{5}$; $^{5}/_{5}$; $^{11}/_{10}$; $^{9}/_{1}$; $^{9}/_{4}$; **B.** 2; 6; 10; 6; 16; 10; 60; 50; 500 **5.NF.A.1; 3.NF.A.3**

Learning Opportunity 55

Part 1 – Numeracy Development **CCSS**

1. First Column: 10; 25; Second Column: 3; 5 **3.NF.A.3**

2. First Column: $^{8}/_{1}$; $^{8}/_{3}$; Second Column: $^{81}/_{10}$; $^{37}/_{8}$ **NOTE:** Stress whole number improper fractions: e.g. 8 = $^{8}/_{1}$ **5.NF.A.1**

3. 0.6; 0.55; 0.95 **5.NBT.B.7**

4. **4:** 4, 8, 12, 20, 24; **6:** 0, 12, 18, 24, 32; Common Multiples: 12 and 24; **LCM or LCD** = 12 **4.NF.A.2**

5. First Column: $^{4}/_{10}$; $^{6}/_{21}$; Second Column: $^{8}/_{6}$; $^{15}/_{4}$ **5.NF.B.4**

6. 105; 0.5; 0.25 **NOTE:** Stress that zeroes can be added after the decimal point – fraction to decimal of ½ and ¼ **5.NBT.B.6/7**

Part 2 – Application Practice

7. **y = 0, 2, 4, 5, 7, 9** Plot x,y coordinates of y = x – 2; **NOTE:** 'x' – walk to the elevator; 'y' take the elevator up **5.OA.A.2; 5.G.A.1/2**

8. **B – $^{8}/_{9}$** (i.e. $^{2}/_{9}$ + $^{6}/_{9}$ = $^{8}/_{9}$) **NOTE:** Stress that the denominator must be the same for both fractions to add. **4.NF.B.3**

9. $^{2}/_{12}$; (i.e. $^{2}/_{4}$ x $^{1}/_{3}$ = $^{2}/_{12}$) **NOTE:** Practice as needed; Students should count the double hatch blocks – 2 of 12 total **5.NF.B.4**

10. $^{2}/_{8}$; (i.e. $^{1}/_{8}$ + $^{5}/_{8}$ = $^{6}/_{8}$; then $^{8}/_{8}$ - $^{6}/_{8}$ = $^{2}/_{8}$) Students can use the number line to count eighths. Stress 1 = $^{8}/_{8}$ **4.NF.B.3**

11. 325; 1.2; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Given: 9 ÷ 2; 4 ½; $^{9}/_{2}$ = 4 $^{1}/_{2}$ **NOTE:** ***R**oll to the **R**ight.* Stress only the Mixed Number quotient not the decimal quotient. Practice a couple examples per day so students realize the remainder (1) becomes the *numerator* and the divisor (2) is the *denominator* in the mixed number: 4 $^{1}/_{2}$ **5.NF.A.1**

Learning Opportunity 56

Part 1 – Numeracy Development **CCSS**

1. 6; 4; **3.NF.A.3**

2. $^{20}/_{3}$; $^{28}/_{7}$; **NOTE:** Stress whole number improper fractions: e.g. 7 = $^{7}/_{1}$ **5.NF.A.1**

3. 4.6; 2.2; **5.NBT.B.7**

4. **5:** 5, 10, 15, 20, 25; 30 **6:** 0, 12, 18, 24, 30, 36; **LCM or LCD** = 30 **4.NF.A.2**

5. Given; 0; 1; 0; 1 **4.NF.B.3**

6. First Column: $^{14}/_{14}$; $^{18}/_{5}$; **5.NF.B.4**

7. 0.25; 0.2; 0.5; 0.125 **NOTE:** Stress that zeroes can be added after the decimal point **5.NBT.B.7**

Part 2 – Application Practice

8. **y = 0, 2, 4, 6, 10, 12** Plot x,y coordinates of y = 2(x); **NOTE:** 'x' – walk to the elevator; 'y' take the elevator up **5.OA.A.2; 5.G.A.1/2**

9. **D – $^{6}/_{9}$** (i.e. $^{8}/_{9}$ - $^{2}/_{9}$ = $^{6}/_{9}$) **NOTE:** Stress that the denominator must be the same for both fractions to add. **4.NF.B.3**

10. $^{54}/_{8}$; (i.e. $^{9}/_{4}$ x $^{6}/_{2}$ = $^{54}/_{8}$) **NOTE:** Practice as needed; 1 or 2 computations per day for 5 days. **5.NF.B.4**

11. **B – 0.9 lbs.**; (i.e. 7.2 ÷ 8 = 0.9) **5.NBT.B.7**

12. 40; 90; 32; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 4 ÷ 3; 1 $^{1}/_{3}$; $^{4}/_{3}$ = 1 $^{1}/_{3}$; 17 ÷ 5; 3 $^{2}/_{5}$; $^{17}/_{5}$ = 3 $^{2}/_{5}$ **NOTE:** ***R**oll fraction to the **R**ight* to divide. **5.NF.A.1**

Learning Opportunity 57

Part 1 – Numeracy Development **CCSS**

1. 28; 3; **3.NF.A.3**

2. $^{4}/_{1}$; $^{21}/_{8}$; **NOTE:** Stress whole number improper fractions: e.g. 4 = $^{4}/_{1}$ **5.NF.A.1**

3. 0.601 < 0.7; 0.05 < 0.5; **5.NBT.B.7**

4. **4:** 0, 4, 8, 12, 16, 20; 24 **5:** 0, 5, 10, 15, 20, 25; 30 **LCM or LCD** = 20 **4.NF.A.2**

5. 0; ½; 0; ½; 1 **5.NBT.A.4**

6. First Column: $^{48}/_{2}$; $^{3}/_{12}$; **5.NF.B.4**

7. 0.25; 0.2; 0.5; 0.125 **NOTE:** Stress that zeroes can be added after the decimal point **5.NBT.B.7**

Part 2 – Application Practice

8. **y = 2, 4, 7, 8, 10, 12** Plot x,y coordinates of y = x + 2; **NOTE:** 'x' – walk to the elevator; 'y' take the elevator up **5.OA.A.2; 5.G.A.1/2**

9. Check students' work. **NOTE:** This pictorial is shown in the Reflection and Conceptual Understanding section **4.NF.B.3**

10. $^{28}/_{2}$; (i.e. $^{7}/_{2}$ x $^{4}/_{1}$ = $^{28}/_{2}$) **NOTE:** Practice as needed; 1 or 2 computations per day for 5 days. **5.NF.B.4**

11. **B – 6 cages.**; (i.e. 28 ÷ 5 = 5 R 3) **NOTE:** 5 cages, but 3 extra birds in last cage for 6 total cages required for 28 birds. **5.NBT.B.6**

12. 70; 116; 1,000; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 3 ÷ 2; 1 ½; $^{3}/_{2}$ = 1 ½; 8 ÷ 5; 1 $^{3}/_{5}$; $^{8}/_{5}$ = 1 $^{3}/_{5}$ **NOTE:** ***R**oll fraction to the **R**ight* to divide. **5.NF.A.1**

Learning Opportunity 58

Part 1 – Numeracy Development **CCSS**

1. $^{9}/_{2}$ = 4 ½; $^{5}/_{3}$ = 1 $^{2}/_{3}$ **NOTE:** These skills take practice to master. One per day until students are proficient. **5.NF.A.1**

2. 21,369 **NOTE:** Review as needed. **5.NBT.B.5**

3. 0.2; 0.5; 0.125 **5.NBT.B.7**

4. 0; 1; ½; 1; 0 **5.NBT.A.4**

5. 0; 1; ½; 1; 0 **4.NF.B.3**

Part 2 – Application Practice

6. Label the number line (fourths – four equal spaces); ¼ + $^{2}/_{4}$ = ¾ **4.NF.B.3**

7. **V =** 36 cubic units (i.e. 3 x 4 x 3 = 36) **5.MD.C.3/4**

8. $^{\mathbf{34}}/_{\mathbf{3}}$; (i.e. $^{17}/_{3}$ x $^{2}/_{1}$ = $^{\mathbf{34}}/_{\mathbf{3}}$) **NOTE:** Practice as needed **5.NF.B.4**

9. $^{\mathbf{3}}/_{\mathbf{8}}$; (i.e. $^{8}/_{8}$ - $^{5}/_{8}$ = $^{\mathbf{3}}/_{\mathbf{8}}$); Students can use the number line to count eighths. Stress 1 = $^{8}/_{8}$ **4.NF.B.3**

10. $12.60; (i.e. 3.15 x 4 = 12.60) **5.NBT.B.7**

11. 9,000; 3,600; 5,420; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Given; Given; Additive; Multiplicative; Additive **NOTE:** Students should recognize paired relationship as either x or +. **5.G.A.1**

Learning Opportunity 59

Part 1 – Numeracy Development **CCSS**

1. Given; $^{9}/_{5}$ = 1 $^{4}/_{5}$; $^{11}/_{2}$ = 5 ½ **NOTE:** These skills take practice to master. One per day until students are proficient. **5.NF.A.1**

2. 0.35 = $^{35}/_{100}$ **NOTE:** Review as needed. **5.NBT.B.7**

3. 0.1; 0.25 **5.NBT.B.7**

4. ½; 0; 0; 1; 1 **5.NBT.A.4**

5. 0; 1; 1; ½; ½ **4.NF.B.3**

6. List out multiples of 2 and 4: **2**: 0, 2, ***4***, 6, 8, 10, 12, 15, 18… **4:** 0, 2, ***4***, 6, 8, 10, 12, 14, 16… **LCM = 4** **4.NF.A.2**

Part 2 – Application Practice

7. **y = 12, 10, 7, 6, 4, 2** Plot x,y coordinates of y = 12 - x; **NOTE:** 'x' – walk to the elevator; 'y' take the elevator up **5.OA.A.2; 5.G.A.1/2**

8. **V = 32** cubic units (i.e. 3 x 4 x 2 = **24** PLUS 2 x 2 x 3 = **12** … **24 + 12 = 36))** **5.MD.C.3/4**

9. $^{\mathbf{99}}/_{\mathbf{8}}$; (i.e. $^{11}/_{2}$ x $^{9}/_{4}$ = $^{\mathbf{99}}/_{\mathbf{8}}$) **NOTE:** Practice as needed **5.NF.B.4**

10. 573.4 km; (i.e. 1,146.8 ÷ 2 = 573.4) **5.NBT.B.7**

11. 7,500; 2,000; 9,140; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Multiplicative; Additive; Additive; Multiplicative; Multiplicative (x 1) OR Additive (+ 0) **5.G.A.1**

Learning Opportunity 60

Part 1 – Numeracy Development **CCSS**

1. $^{9}/_{8}$ = 1 $^{1}/_{8}$; $^{17}/_{7}$ = 2 $^{3}/_{7}$ **NOTE:** These skills take practice to master. One per day until students are proficient.. **5.NF.A.1**

2. 18.5 **NOTE:** Review as needed. **5.NBT.B.7**

3. $^{12}/_{15}$ **5.NF.B.4**

4. 0.2; 0.125 **5.NBT.B.7**

5. Given; 7; 9; 2; 6 **5.NBT.A.4**

6. ½; ½; 0; ½; 0 **4.NF.B.3**

7. List out multiples of 2 and 3: **2**: 0, 2, 4, ***6***, 8, 10, 12, 15, 18… **3:** 0, 3, ***6***, 9, 12, 15, 18, 21, 24… **LCM = 6** **4.NF.A.2**

Part 2 – Application Practice

8. **LCM/LCD = 6**; ½ = $^{3}/_{6}$; $^{1}/_{3}$ = $^{2}/_{6}$; $^{3}/_{6}$ + $^{2}/_{6}$ = $^{5}/_{6}$; Check students' work on shading – $^{2}/_{6}$ shaded, $^{3}/_{6}$ shaded, $^{5}/_{6}$ shaded. **5.NF.A.1**

9. **V = 42** cubic units (i.e. 5 x 3 x 2 = **30** PLUS 2 x 3 x 2 = **12** …. **30 + 12 = 42)** **5.MD.C.3/4**

10. **C – 2.505 kl;** (i.e. 250.5 x 10 = 2,505 L) 2,505 L ÷ 1,000 = **2.505 L** **NOTE:** Practice as needed **5.MD.A.1; 5.NBT.B.7**

11. 11.43 miles; (i.e. 22.1 – 10.67 = 11.43) **5.NBT.B.7**

12. 8; 2.5; 10.1; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **A1.)** fifths **A2.)** thirds **B1.)** $^{3}/_{100}$ **B2.)** 4 $^{7}/_{10}$ **3.NF.A.2; 4.NF.C.6**

Learning Opportunity 61

Part 1 – Numeracy Development **CCSS**

1. $^{7}/_{2} = 3\ ½$; $^{13}/_{8} = 1\ ^{5}/_{8}$ **NOTE:** These skills take practice to master. One per day until students are proficient. **5.NF.A.1**

2. $^{1}/_{3} > ¼$; **or** $^{4}/_{12} > {}^{3}/_{12}$ **NOTE:** These skills take practice to master. One per day until students are proficient **4.NF.A.1/2; 5.NF.A.1**

3. 0.75 **NOTE:** These problems are designed to assist students in converting the fraction ¾ to a decimal. **5.NBT.B.7; 5.NF.B.3**

4. 3; 6; 10; 1; **5.NBT.A.4**

5. $^{11}/_{5} \times {}^{5}/_{3} = {}^{55}/_{15}$ **5.NF.B.4**

6. Given; 7; 5; 4; **4.NF.B.3**

Part 2 – Application Practice

7. **LCM/LCD = 8**; ½ = $^{4}/_{8}$; $^{1}/_{8} = {}^{1}/_{8}$; $^{4}/_{8} + {}^{1}/_{8} = {}^{5}/_{8}$; Check students' work on shading – $^{4}/_{8}$ shaded, $^{1}/_{8}$ shaded, $^{5}/_{8}$ shaded. **5.NF.A.1**

8. **V = 48** cubic units (i.e. 5 x 2 x 3 = 30 PLUS 2 x 3 x 3 = 18) Hence, 30 + 18 = **48** units^{3} **5.MD.C.3/4**

9. **A –** 5.38 liters (i.e. 1.5 + 1.3 + 2.58 = 5.38); **NOTE:** Students MUST be reminded to line-up decimal points when adding/subtracting **5.NBT.B.7**

10. T = 10; P = 1; T + P = 11 **5.OA.A.1**

11. 1.25; 3.9; 15; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **A1.)** halves **A2.)** fourths **B1.)** $^{509}/_{1,000}$ **B2.)** $9\ ^{6}/_{100}$ **3.NF.A.2; 4.NF.C.6**

Learning Opportunity 62

Part 1 – Numeracy Development **CCSS**

1. $^{16}/_{8} = 2\ ^{0}/_{8} = 2$; **NOTE:** These skills take practice to master. One per day until students are proficient. **5.NF.A.1**

2. $^{2}/_{3} < {}^{3}/_{4}$; **or** $^{8}/_{12} < {}^{9}/_{12}$ **NOTE:** These skills take practice to master. One per day until students are proficient **4.NF.A.1/2; 5.NF.A.1**

3. 0.90; 2.5; 0.75 **5.NBT.B.7; 5.NF.B.3**

4. 10; 8; 2; **5.NBT.A.4**

5. 26; 40; 66; **5.OA.A.1**

6. $^{11}/_{5} \times {}^{8}/_{1} = {}^{88}/_{5}$ **5.NF.B.4**

7. 3; 5; 9; **4.NF.B.3**

Part 2 – Application Practice

8. **LCM/LCD = 8**; ¾ = $^{6}/_{8}$; $^{1}/_{8} = {}^{1}/_{8}$; $^{6}/_{8} - {}^{1}/_{8} = {}^{5}/_{8}$; Check students' work on shading – $^{6}/_{8}$ shaded, $^{1}/_{8}$ shaded, $^{5}/_{8}$ shaded. **5.NF.A.1**

9. y = 26; 36 **NO,** this pattern is multiplicative, not additive. **5.OA.B.3**

10. **D –** W = (11 x 12) + 6 **5.OA.A.1; 5.MD.A.1**

11. **V = 100** cubic units (i.e. 20 x 5 = 100) **NOTE:** Stress with students the base is L x W = Area. **5.MD.C.3/4**

12. 0.5 = ½; 1.5 = 1 ½; 4; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Given: 0.1: Shade 1 of 10; 0.5: Shade 2 of 4; 0.2: Shade 1 of 5 **3.NF.A.1; 5.NF.B.3**

Learning Opportunity 63

Part 1 – Numeracy Development **CCSS**

1. $^{23}/_{7} = 3\ ^{2}/_{7}$; **NOTE:** These skills take practice to master. One per day until students are proficient. **5.NF.A.1**

2. $^{3}/_{5} < {}^{4}/_{6}$; **or** $^{18}/_{30} < {}^{20}/_{30}$ **NOTE:** These skills take practice to master. One per day until students are proficient. **4.NF.A.1/2; 5.NF.A.1**

3. 34 **5.NBT.B.5**

4. $^{5}/_{2} \times {}^{17}/_{3} = {}^{85}/_{6}$ **5.NF.B.4**

5. 5; 2; 3; 3 **4.NF.B.3; 5.NBT.A.4**

6. $^{12}/_{3} = 4$; 4; **NOTE:** There are 4 dots in $^{2}/_{3}$ of 6. Stress that a faction less than 1 times a whole number (WN) is less than the W.N. **5.NF.B.3**

7. (5 x $^{1}/_{100}$) + (8 x $^{1}/_{1,000}$); **0.405 =** (4 x $^{1}/_{10}$) + (0 x $^{1}/_{100}$) + (5 x $^{1}/_{100}$) **5.NBT.A.3**

Part 2 – Application Practice

8. **LCM/LCD = 10**; $^{3}/_{5} = {}^{6}/_{10}$; $^{1}/_{2} = {}^{5}/_{10}$; $^{3}/_{5} - {}^{1}/_{2} = {}^{1}/_{10}$; Check students' work on shading – $^{6}/_{10}$ shaded, $^{5}/_{10}$ shaded, $^{1}/_{10}$ shaded. **5.NF.A.1**

9. Check students' work; **NOTE:** Show students how the decimal moves 10 times more/less one PV to the right or the left. **5.NBT.A.1; 5.NBT.A.2**

10. **B – D = 3.14 + (3 x 2.46)** **NOTE:** Practice as needed **5.NBT.B.7**

11. **V = 60** m^3 (i.e. 10 x 6 = 60) **NOTE:** Stress with students the base is L x W = Area. **5.MD.C.3/4**

12. 0.75; 2.3; 8.5; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.5; Shade 1 of 2; 0.4; Shade 4 of 10; 0.75; Shade 3 of 4; 0.6; Shade 3 of 5 **3.NF.A.1; 5.NF.B.3**

Learning Opportunity 64

Part 1 – Numeracy Development **CCSS**

1. **D –** 0.5, 0.6, 0.7, 0.8, 0.9, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6. 1.7; **PF** – $^{5}/_{10}$; $^{6}/_{10}$; $^{7}/_{10}$; $^{8}/_{10}$; $^{9}/_{10}$; **IF –** $^{11}/_{10}$, $^{12}/_{10}$, $^{13}/_{10}$, $^{14}/_{10}$, $^{15}/_{10}$, $^{16}/_{10}$, $^{17}/_{10}$; **5.NBT.B.7**
2. **12.79 =** (1 x 10) + (2 x 1) + (7 x $^{1}/_{10}$) + (9 x $^{1}/_{100}$); **234.5 =** (2 x 100) + (3 x 10) + (4 x 1) + (5 x $^{1}/_{10}$); **0.701 =** (7 x $^{1}/_{10}$) + (0 x $^{1}/_{100}$) + (1 x $^{1}/_{1,000}$); **5.NF.A.3**
3. $^{4}/_{2}$ = 2; 2 dots in one of the two groups. **NOTE:** 4 ÷ 2 = 2; Stress a fraction is a division problem – *"**R**oll to the **R**ight."* **5.NF.B.3**

Part 2 – Application Practice

4. **B – E =** $^{8}/_{12}$ **+** $^{3}/_{12}$; $^{2}/_{3}$ = $^{8}/_{12}$; $^{1}/_{4}$ = $^{3}/_{12}$; $^{2}/_{3}$ + $^{1}/_{4}$ = $^{11}/_{12}$; LCD = 12; **NOTE:** Practice the LCD and one problem a day until mastered. **5.NF.A.1**
5. Check students' work; **NOTE:** Show students how the decimal moves 10 times more/less one PV to the right or the left. **5.NBT.A.1; 5.NBT.A.2**
6. **P = 50 m** (i.e. 2(10 + (12 + 3)) = 50 ; **A = 150 m²** (10 x (12 + 3)) = 150 **NOTE:** Focus on units of P and A compared to Volume (m^3) **4.MD.A.3**
7. Pt. **A**: (0, 6); Pt. **B**: (4, 5); Pt. **C**: (5, 1); Pt. **D**: (7, 0); **NOTE: X:** *"Walk to the Elevator"* **Y:** *"Ride the Elevator Up"* **5.G.A.1**
8. ¾ **<** $^{5}/_{6}$; LCD = 12; ¾ = $^{9}/_{12}$ and $^{5}/_{6}$ = $^{10}/_{12}$; **NOTE:** Practice LCD and equivalent fractions, as needed. **4.NF.A.2**
9. 2,000; 500; 3,200; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.8; Shade 4 of 5; 0.5; Shade 5 of 10; 0.25; Shade 1 of 4; 0.4; Shade 2 of 5 **3.NF.A.1; 5.NF.B.3**

Learning Opportunity 65

Part 1 – Numeracy Development **CCSS**

1. **D –** 0.2, 0.4, 0.6, 0.8, 1.2, 1.4, 1.6, 1.8; 2.2; 2.4 **PF** – $^{0}/_{5}$; $^{1}/_{5}$; $^{2}/_{5}$; $^{3}/_{5}$; $^{4}/_{5}$; **IF –** $^{5}/_{5}$, $^{6}/_{5}$, $^{7}/_{5}$, $^{8}/_{5}$, $^{9}/_{5}$, $^{10}/_{5}$, $^{11}/_{5}$, $^{12}/_{5}$; **5.NBT.B.7**
2. **46.8 =** (4 x 10) + (6 x 1) + (8 x $^{1}/_{10}$); **74.59 =** (7 x 10) + (4 x 1) + (5 x $^{1}/_{10}$) + (9 x $^{1}/_{100}$); **3.456 = (**3 x 1) + (4 x $^{1}/_{10}$) + (5 x $^{1}/_{100}$) + (6 x $^{1}/_{1,000}$); **5.NF.A.3**
3. $^{9}/_{3}$ = 3; 3 dots in one of the two groups. **NOTE:** 9 ÷ 3 = 3; Stress a fraction is a division problem – *"**R**oll to the **R**ight."* **5.NF.B.3**

Part 2 – Application Practice

4. **A –** $^{11}/_{15}$; $^{2}/_{5}$ = $^{6}/_{15}$; $^{1}/_{3}$ = $^{5}/_{15}$; $^{2}/_{5}$ + $^{1}/_{3}$ = $^{11}/_{15}$; LCD = 15; **NOTE:** Practice the LCD and one problem a day until mastered. **5.NF.A.1**
5. Check students' work; **NOTE:** Show students how the decimal moves 10 times more/less one PV to the right or the left. **5.NBT.A.1; 5.NBT.A.2**
6. **B – 24 boxes** (i.e. 4 x 3 x 2 = 24) **NOTE:** This is an (obvious) volume problem without asking for the specific geometric name. **5.MD.C.3**
7. Pt. **R**: (4, 7); Pt. **A**: (6, 3); Pt. **M**: (2, 0); Pt. **E**: (0, 3); **NOTE: X:** *"Walk to the Elevator"* **Y:** *"Ride the Elevator Up"* **5.G.A.1**
8. **C – 39.27** oz; (i.e. 5.1 x 7.7 = 39.27) **NOTE:** Line-up decimals when adding/subtracting and counting when multiplying. **5.NBT.B.7**
9. 5,000; 750; 8,600; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.2; Shade 1 of 5; 0.7; Shade 7 of 10; 0.25; Shade 1 of 4; 1.0; Shade 5 of 5 **3.NF.A.1; 5.NF.B.3**

Learning Opportunity 66

Part 1 – Numeracy Development **CCSS**

1. **D –** 0.25, 0.5, 0.75, 1.25, 1.5, 1.75, 2.25, 2.5, 2.75; **PF** – $^{0}/_{4}$; $^{1}/_{4}$; $^{2}/_{4}$; $^{3}/_{4}$; **IF –** $^{4}/_{4}$, $^{5}/_{4}$, $^{6}/_{4}$, $^{7}/_{4}$, $^{8}/_{4}$, $^{9}/_{4}$, $^{10}/_{4}$, $^{11}/_{4}$, $^{12}/_{4}$; **5.NBT.B.7**
2. $^{8}/_{4}$, 2; $^{10}/_{5}$, 2 **NOTE:** 10 ÷ 2 = 5; Stress a fraction is a division problem – *"**R**oll to the **R**ight."* **5.NF.B.3**
3. $^{6}/_{30}$; $^{5}/_{18}$; **5.NF.B.3**
4. $^{3}/_{5}$; $^{1}/_{12}$; **5.NF.A.1**
5. Check students' work, and ***STRESS that any decimal or fraction < than 1 multiplied by number > 1 is always < than that number***. **5.NF.B.5**

Part 2 – Application Practice

6. **C –** $^{1}/_{10}$ **hour;** $^{7}/_{10}$ = $^{7}/_{10}$; $^{4}/_{5}$ = $^{8}/_{10}$; $^{8}/_{10}$ - $^{7}/_{10}$ = $^{1}/_{10}$; LCD = 10; **NOTE:** Practice the LCD and one problem a day until mastered. **5.NF.A.1**
7. Check students' work; **NOTE:** Show students how the decimal moves 10 times more/less one PV to the right or the left. **5.NBT.A.1; 5.NBT.A.2**
8. **B - $51.00** (i.e. 4.25 x 4 = 17.0 kg. then, $3 x 17 = $51.00) **5.NBT.B.7**
9. Pt. **E**: (0, 7); Pt. **A**: (0, 3); Pt. **S**: (2, 0); Pt. **Y**: (6, 0); **NOTE: X:** *"Walk to the Elevator"* **Y:** *"Ride the Elevator Up"* **5.G.A.1**
10. **B – 2 apples** (i.e. $^{1}/_{5}$ x $^{10}/_{1}$ = $^{10}/_{5}$ = 2) **NOTE:** 'Of' means multiply. Example ½ of 12 means ½ x 12 – Stress to students. **5.NF.B.4**
11. 5,000; 500; 50,000; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.6; Shade 3 of 5; 0.9; Shade 9 of 10; 0.75; Shade 3 of 4; 0.125; Shade 1 of 8 **3.NF.A.1; 5.NF.B.3**

Learning Opportunity 67

Part 1 – Numeracy Development **CCSS**

1. **D –** 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, **PF** – $^{0}/_{2}$; $^{1}/_{2}$; **IF –** $^{2}/_{2}$, $^{3}/_{2}$, $^{4}/_{2}$, $^{5}/_{2}$, $^{6}/_{2}$, $^{7}/_{2}$, $^{8}/_{2}$; $^{9}/_{2}$, $^{10}/_{2}$, $^{11}/_{2}$, $^{12}/_{2}$; **5.NBT.B.7**
2. $^{24}/_{4} = 6$; $^{30}/_{5} = 6$ **NOTE:** 30 ÷ 5 = 6; Stress a fraction is a division problem – *"**R**oll to the **R**ight."* **5.NF.B.3**
3. $^{5}/_{6}$; $^{24}/_{21}$; **5.NF.B.3**
4. $^{8}/_{6}$; $^{1}/_{8}$; **5.NF.A.1**
5. Check students' work, and ***STRESS that any decimal or fraction < than 1 multiplied by number > 1 is always < than that number***. **5.NF.B.5**

Part 2 – Application Practice

6. 1 ½ = $^{3}/_{2}$; 2 $^{1}/_{3}$ = $^{7}/_{3}$; LCD = 6; $^{3}/_{2} + ^{7}/_{3} = ^{9}/_{6} + ^{14}/_{6} = ^{23}/_{6}$ **NOTE:** One problem a day until mastered. **5.NF.A.1**
7. Check students' work; **NOTE:** Show students how the decimal moves 10 times more/less one PV to the right or the left. **5.NBT.A.1; 5.NBT.A.2**
8. **C – 45 cars** (i.e. 179 ÷ 4 = 44 R3; hence, 44 cars with 4 people and 1 car with 3 people = 45 cars) **5.NBT.B.6**
9. **C – 20 people** (i.e. $^{2}/_{5} \times ^{25}/_{1} = ^{100}/_{5} = 20$) **NOTE:** 'Of' means multiply. Example ½ of 12 means ½ x 12 – Stress to students. **5.NF.B.4**
10. 3,200; 750; 10,000; **5.MD.A.1; 5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.4; 0.4; 1 $^{3}/_{5}$; 2 ½ **NOTE:** An improper fraction can also equal a decimal. **5.NF.A.1**

Learning Opportunity 68

Part 1 – Numeracy Development **CCSS**

1. **D –** 0.25, 0.5, 0.75, 1.25, 1.5, 1.75, 2.25, 2.5, 2.75; **PF** – $^{0}/_{4}$; $^{1}/_{4}$; $^{2}/_{4}$; $^{3}/_{4}$; **IF –** $^{4}/_{4}$, $^{5}/_{4}$, $^{6}/_{4}$, $^{7}/_{4}$, $^{8}/_{4}$, $^{9}/_{4}$, $^{10}/_{4}$, $^{11}/_{4}$, $^{12}/_{4}$; **5.NBT.B.7**
2. $^{16}/_{2} = 8$; $^{42}/_{7} = 6$ **NOTE:** 42 ÷ 7 = 6; Stress a fraction is a division problem – *"**R**oll to the **R**ight."* **5.NF.B.3**
3. 2 ½ = $^{5}/_{2}$; 1 $^{2}/_{3}$ = $^{5}/_{3}$; $^{5}/_{2} \times ^{5}/_{3} = \mathbf{^{25}/_{6}}$ **5.NF.B.3**
4. 8.4; $^{2}/_{9}$ **5.NBT.B.7; 5.NF.A.1**
5. PT. **A** -- 0.75 = ¾; PT. **A** -- 2.25 = $^{9}/_{4}$; **NOTE:** Students must understand the number line means these entities are equal. **4.NF.A.2**

Part 2 – Application Practice

6. 3 $^{1}/_{3}$ = $^{10}/_{3}$; 4 $^{0}/_{4}$ = $^{16}/_{4}$; LCD = 12; $^{10}/_{3} + ^{16}/_{4} = ^{40}/_{12} + ^{48}/_{12} = \mathbf{^{88}/_{12}}$ **NOTE:** One problem a day until mastered. **5.NF.A.1**
7. **C – $\mathbf{^{5}/_{7}}$** (i.e. 7 total numbers; Composite Numbers: 15, 25, 16, 21, 33; Fraction = **$\mathbf{^{5}/_{7}}$**) **3.NF.A.3; 4.OA.B.4**
8. **A – 141.4 oz.** [i.e. (14.8 x 8) + (4.6 x 5) = 141.4 ounces] **5.NBT.B.7**
9. **C – $\mathbf{^{1}/_{16}}$** [i.e. $^{9}/_{16} - (^{1}/_{2} = ^{8}/_{16}) = ^{1}/_{16}$] **5.NF.A.1**
10. 7,000; 250; 9,342; **5.MD.A.1; 5.NBT.B.5/7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.25; 0.5; 2 $^{0}/_{5}$ = 2; 1 ¾ **NOTE:** An improper fraction can also equal a decimal. **5.NF.A.1**

Learning Opportunity 69

Part 1 – Numeracy Development **CCSS**

1. **D –** 0.2, 0.4, 0.6, 0.8, 1.2, 1.4, 1.6, 1.8; 2.2; 2.4 **PF** – $^{0}/_{5}$; $^{1}/_{5}$; $^{2}/_{5}$; $^{3}/_{5}$; $^{4}/_{5}$; **IF –** $^{5}/_{5}$, $^{6}/_{5}$, $^{7}/_{5}$, $^{8}/_{5}$, $^{9}/_{5}$, $^{10}/_{5}$, $^{11}/_{5}$, $^{12}/_{5}$; **5.NBT.B.7**
2. $^{42}/_{7}$, 6; $^{90}/_{9}$, 10 **NOTE:** 90 ÷ 10 = 9; Stress a fraction is a division problem – *"**R**oll to the **R**ight."* **5.NF.B.3**
3. 1.7; 5.5; 0.2; **5.NBT.B.7**
4. 6; 4; 25; **5.OA.A.1**
5. PT. **A** -- 0.6 = $^{3}/_{5}$; PT. **A** -- 1.8 = $^{8}/_{5}$; **NOTE:** Students must understand the number line means these entities are equal. **4.NF.A.2**

Part 2 – Application Practice

6. 2 $^{2}/_{4}$ = $^{10}/_{4}$; 5 $^{1}/_{6}$ = $^{31}/_{6}$; LCD = 12; $^{10}/_{4} + ^{31}/_{6} = ^{30}/_{12} + ^{62}/_{12} = \mathbf{^{92}/_{12}}$ **NOTE:** One problem a day until mastered. **5.NF.A.1**
7. 1,440; (i.e. 32 x 45 = 1,440); Composite; **NOTE:** Use divisibility rules - it is an even number – must have > 2 factors. **4.OA.B.4; 5.NBT.B.5**
8. 1,515.82 miles; (663.9 + 554.92 + 297 = 1,515.82) **NOTE:** Stress must line-up decimal points when adding or subtracting. **5.NBT.B.7**
9. **B – 10 apples** (i.e. $^{2}/_{3} \times ^{30}/_{1} = ^{60}/_{3} = 20$, so 30 – 20 = 10) **NOTE:** Or, if the students are capable: $^{1}/_{3}$ x 30 = 10 apples. **5.NF.B.4**
10. 48 m^3; (i.e. 8 m x 2 m x 3 m = 48 m^3) **5.MD.C.4/5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: 0.5; 0.8; 2 $^{3}/_{7}$; 1; **NOTE:** An improper fraction can also equal a decimal. **5.NF.A.1**

Learning Opportunity 70

Part 1 – Numeracy Development **CCSS**

1. **B – 0.4 ÷ 2 = 0.20** **5.NBT.B.7**

2. $^{2}/_{3}$; ½; $^{2}/_{3} \times {}^{1}/_{2} = {}^{2}/_{6}$ **5.NF.B.4**

3. 8.1; 2.2; 5.9 **5.NBT.B.7**

4. 105 **5.NBT.B.6**

5. $1\frac{1}{4} = {}^{5}/_{4}$; $3\frac{1}{2} = {}^{7}/_{2}$; LCD = 4; $^{5}/_{4} + {}^{7}/_{2} = {}^{5}/_{4} + {}^{14}/_{4} = {}^{19}/_{4}$ **5.NF.A.1**

6. **20:** (1, 2, 4, 5, 10, 20); **C**; **21:** (1, 3, 7, 21) **C**; **23:** (1, 23) **P** **NOTE:** Review the Compression Method, as needed. **4.OA.B.4**

7. Given; 8 + 0 + 0.09; + 0.005; 2,000 + 0 + 30 + 2 + 0.4 **5.NBT.A.3**

Part 2 – Application Practice

8. 4; 12; $^{4}/_{4} = 1$ **5.OA.A.2**

9. 725; (i.e. 1,234 – 509 = 725); Composite number **NOTE:** Divisibility Rule of 5 – More than 2 factors – Composite **4.NBT.B.4; 4.OA.B.4**

10. **B – $^{48}/_{10}$** (i.e. $3\,{}^{1}/_{5} \times 1\frac{1}{2} = {}^{16}/_{5} \times {}^{3}/_{2} = {}^{48}/_{10}$) **5.NF.B.4**

11. **C**: (7, 6); **NOTE: X:** *"Walk to the Elevator"* **Y:** *"Ride the Elevator Up"* **5.G.A.1**

12. **D – 12**; ($^{6}/_{10} \times 20 = {}^{120}/_{10} = 12$) **5.NF.B.4**

13. **B – 160 ft^3**; (i.e. (10 x 4 x 3) + (10 x 2 x 2) = 160) **5.MD.C.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Given; IT; ST; ST; ET; ST; IT **5.G.B.4**

Learning Opportunity 71

Part 1 – Numeracy Development **CCSS**

1. $1\,{}^{2}/_{3} = {}^{5}/_{3}$; $2\,{}^{1}/_{2} = {}^{5}/_{2}$; LCD = 6; $^{5}/_{3} + {}^{5}/_{2} = {}^{10}/_{6} + {}^{15}/_{6} = \mathbf{{}^{25}/_{6}}$; $3\,{}^{1}/_{5} = {}^{16}/_{5}$; $1\,{}^{2}/_{3} = {}^{5}/_{3}$; LCD = 15; $^{16}/_{5} - {}^{5}/_{3} = {}^{48}/_{15} - {}^{25}/_{15} = \mathbf{{}^{23}/_{15}}$ **5.NF.A.1**

2. 1.2 x 0.5 = 0.60; **NOTE:** Stress to students to count the double-hatched squares to verify that 0.60 or $^{60}/_{100}$ are shaded. **5.NBT.B.7**

3. 4.8; 0.7; 6.4 **5.NBT.B.7**

4. 4,248 **5.NBT.B.5**

5. **12:** (1, 2, 3, 4, 6, 12); **C**; **13:** (1, 13) **P**; **15:** (1, 3, 5, 15) **C** **NOTE:** Review the Compression Method, as needed. **4.OA.B.4**

6. Given; $4 + {}^{3}/_{10} + {}^{0}/_{100}$; $+ {}^{2}/_{1,000}$; $500 + 30 + 5 + {}^{7}/_{10}$ **5.NBT.A.3**

Part 2 – Application Practice

7. 1.5; 22.1; $^{8}/_{4} = 2$ **5.OA.A.2**

8. **C – 0.484**; **5.NBT.A.4**

9. $13\frac{1}{2} = \mathbf{{}^{27}/_{2}}$ (i.e. $4\,{}^{1}/_{2} \times 3 = {}^{9}/_{2} \times {}^{3}/_{1} = {}^{27}/_{2} = 13\frac{1}{2}$) **5.NF.B.4**

10. **C**: (5, 5); **NOTE: X:** *"Walk to the Elevator"* **Y:** *"Ride the Elevator Up"* **5.G.A.1**

11. **B – 9**; ($^{2}/_{3} \times 6 = {}^{12}/_{3} = 4$; $^{1}/_{2} \times 10 = {}^{10}/_{2} = 5$; $4 + 5 = \underline{\mathbf{9}}$) **5.NF.B.4**

12. **D – 36 boxes**; (i.e. (4 x 3 x 3) = 36) **5.MD.C.3**

Part 3 – Reflection and Conceptual Understanding

Student Answer: ST; ET; ST; IT; ET; ST; IT **5.G.B.4**

Learning Opportunity 72

Part 1 – Numeracy Development **CCSS**

1. First Row: 6; 4; 18; Second Row: 12; 12; 5 **4.NF.A.1; 5.NF.A.1**

2. First Column: 0.9; 0.61; 0,5; Second Column: 0.4; 0.45; 0.4 **5.NBT.A.4**

3. 1,620 **5.NBT.B.5**

4. 0.26; 0.7; 0.33; **5.NBT.B.7**

5. **18:** (1, 2, 3, 6, 9, 18); **C**; **19:** (1, 19) **P**; **14:** (1, 2, 7, 14) **C** **NOTE:** Review the Compression Method, as needed. **4.OA.B.4**

6. Given; (1 x 10) + (5 x 1) + (3 x $^{1}/_{10}$); (7 x $^{1}/_{10}$) + (9 x $^{1}/_{100}$) + (5 x $^{1}/_{1,000}$) **5.NBT.A.3**

Part 2 – Application Practice

7. **y; 3, 5, 7, 8, 10, 11; NOTE:** Students should use a ruler to connect the points. ***Place*** pencil on ONE point, rotate and align the ruler. **5.G.A.1**

8. **a.)** 11 dollars **b.)** 3 hours **NOTE:** Read the graph. Start at x = 8 or y = 6. This exercise only takes practice. **5.G.A.2**

9. 89.25 (i.e. (147.75 + 120) ÷ 3 = **89.25**); 25.5 (i.e. 120 – 94.5 = **25.5**) **5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **A.** Check students' work for accuracy **B.** ***True***, (i.e. isosceles or scalene *right* triangle) ***False*** (impossible – only 3 sides)**5.G.B.4**

NOTE: Require students to draw the three types of triangles and their understanding will vastly improve.

Learning Opportunity 73

Part 1 – Numeracy Development **CCSS**

1. First Row: 2; 9; 7; Second Row: 6; 3; 30 **4.NF.A.1; 5.NF.A.1**

2. First Row: $^{5}/_{10}$; $8\ ^{4}/_{10}$; Second Row: $^{307}/_{1,000}$ **4.NF.C.6**

3. 1.08 **5.NBT.B.7**

4. 0.83; 0.2; 0.98; **5.NBT.B.7**

5. $1\ ^{4}/_{5}$; $3\ ½$;. **5.NF.A.1**

6. **(**$9 \times {}^{1}/_{100}$); $(5 \times 10) + (7 \times 1) + (1 \times {}^{1}/_{10})$; $(0 \times {}^{1}/_{10}) + (9 \times {}^{1}/_{100}) + (8 \times {}^{1}/_{1,000})$ **5.NBT.A.3**

Part 2 – Application Practice

7. **y; 0, 4, 6, 8, 10; NOTE:** Students should use a ruler to connect the points. ***Place*** pencil on ONE point, rotate and align the ruler. **5.G.A.1**

8. **a.)** 2 dollars **b.)** 6 gallons **NOTE:** Read the graph. Start at x = 1 or y = 12. This exercise only takes practice to mastery. **5.G.A.2**

9. Pattern 1: **A**; Pattern 2: **M**; Pattern 3: **M**; Pattern 4: **A** **5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: **A.** Square; Rectangle; Rhombus; Parallelogram **B.** ***True***, (i.e. quadrilateral is a 4 sided polygon) ***True*** (All are Parallelograms) **5.G.B.4**

NOTE: Require students to group polygons starting with Quadrilaterals…separate trapezoid and a general 4 sided figure (general quadrilateral)…then group the parallelograms (rectangle, square, rhombus).

Learning Opportunity 74

Part 1 – Numeracy Development **CCSS**

1. First Row: $^{1}/_{2}$; $^{1}/_{5}$; $^{1}/_{4}$; Second Row: $^{2}/_{3}$; $^{1}/_{6}$; $^{1}/_{3}$ or $^{2}/_{6}$; **4.NF.A.1**

2. First Row: $^{25}/_{100}$; $8\ ^{4}/_{10}$; Second Row: $4\ ^{318}/_{1,000}$; **4.NF.C.6**

3. 4.1; **5.NBT.B.7**

4. 0.69; 0.95 **5.NBT.B.7**

5. $3\ ^{2}/_{3}$; $1\ ^{1}/_{8}$ **5.NF.A.1**

6. $^{2}/_{6}$; $^{8}/_{2}$, 4; **5.NF.B.4**

7. $^{3}/_{4}$; $^{1}/_{8}$; **5.NF.A.1**

Part 2 – Application Practice

8. **y; 0, 2, 3, 4, 5; NOTE:** Students should use a ruler to connect the points. ***Place*** pencil on ONE point, rotate and align the ruler. **5.G.A.1**

9. **a.)** 8 feet **b.)** 6 seconds **NOTE:** Read the graph. Start at x = 8 or y = 6. This exercise only takes practice to mastery. **5.G.A.2**

10. **C – N = 20 feet** (i.e. 90 = 50 + N + N)) N must equal 20 by substitution or trial and error. Must know Perimeter meaning. **5.OA.A.1; 5.G.A.1**

11. **H = 2 inches** (i.e. (V = 30 = B x H = L x W x H = 3 x 5 x H = 15 x H) or 30 = 15 x H; H must equal 2. **5.MD.C.3**

Part 3 – Reflection and Conceptual Understanding

Student Answer: True; False; True **NOTE:** Teacher should stress this diagram. Students must know - draw polygons to match words **5.G.B.4**

Learning Opportunity 75

Part 1 – Numeracy Development **CCSS**

1. First Row: $^{3}/_{5}$; $^{1}/_{6}$; $^{1}/_{2}$; Second Row: $^{2}/_{3}$; $^{1}/_{2}$; $^{1}/_{6}$; **4.NF.A.1**

2. 1 shaded out of five; 0.2 **5.NF.A.1**

3. 3.2; **5.NBT.B.7**

4. 3 **5.NF.A.1**

5. $2\ ^{1}/_{5}$; $1\ ^{1}/_{16}$ **5.NF.A.1**

6. $^{45}/_{21}$; $^{24}/_{4}$, 6; **5.NF.B.4**

7. $^{5}/_{6}$; $^{1}/_{9}$; **5.NF.A.1**

Part 2 – Application Practice

8. Top to Bottom: quadrilaterals; trapezoid; rectangles**;** squares; equilateral; isosceles **5.G.B.3**

9. $ 2.58 (i.e. (3.56 + 4.18) ÷ 3 = 2.58) **5.NBT.B.5; 5.NBT.B.7**

10. **A –** $^{17}/_{4}$ (i.e. $5\ ¾ - 1\ ½ = {}^{23}/_{4} - {}^{3}/_{2} = {}^{23}/_{4} - {}^{6}/_{4} = {}^{17}/_{4}$) **5.NF.A.1**

11. **D –** $1\ ^{1}/_{16}$ (i.e. $^{5}/_{8} + {}^{7}/_{16} = {}^{10}/_{16} + {}^{7}/_{16} = {}^{17}/_{16} = 1\ ^{1}/_{16}$) and Jim ate more. **5.NF.A.1**

12. **V = 24 units^3** (i.e. (V = L x W x H = 4 x 2 x 3 = 24 cubic units) **NOTE:** Students may not count the block in left, back corner. **5.MD.C.3**

Part 3 – Reflection and Conceptual Understanding

Student Answer: True; True; False; False **NOTE:** Students must know relationships - draw polygons of each to match words **5.G.B.4**

Learning Opportunity 76

Part 1 – Numeracy Development **CCSS**

1. **D –** 0.5, 0.6, 0.7, 0.8, 0.9, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6. 1.7; **PF** – $^{5}/_{10}$; $^{6}/_{10}$; $^{7}/_{10}$; $^{8}/_{10}$; $^{9}/_{10}$; **IF –** $^{11}/_{10}$, $^{12}/_{10}$, $^{13}/_{10}$, $^{14}/_{10}$, $^{15}/_{10}$, $^{16}/_{10}$, $^{17}/_{10}$; **MN -** $1\ ^{0}/_{10}$; $1\ ^{1}/_{10}$; $1\ ^{2}/_{10}$; $1\ ^{3}/_{10}$; $1\ ^{4}/_{10}$; $1\ ^{5}/_{10}$; $1\ ^{6}/_{10}$; $1\ ^{7}/_{10}$ **NOTE:** Ask students, write three equivalencies (i.e. $1\ ^{4}/_{10} = 1.4 = {}^{14}/_{10}$) **5.NBT.B.7**
2. First Row: $^{3}/_{5}$; $^{1}/_{2}$; **4.NF.A.1; 5.NBT.B.7**
3. Shade 7 out of 10; 0.7; **5.NBT.B.7**
4. $2\ ^{1}/_{4}$, Shade $^{9}/_{4}$ on quarters shown; $1\ ^{3}/_{10}$, Shade $^{13}/_{10}$ on tenths shown **3.NF.A.1; 5.NBT.B.6**

Part 2 – Application Practice

5. Top to Bottom: quadrilaterals; trapezoid; rectangles**;** rhombuses; squares; scalene; isosceles **5.G.B.3**
6. Shade ½ horizontally and shade ¾ vertically. *Double cross-hatched is* $^{3}/_{8}$; ½ x ¾ = $^{\mathbf{3}}/_{\mathbf{8}}$ **5.NF.B.4**
7. **D – y = x + 1**; **NOTE:** This problem is challenging at first, but it is mainly exposure. Tell students to look for x,y relationship (+ 1 difference) **5.OA.B.3**
8. **B – 1,999,999** **4.NBT.A.2**
9. V = 36 cubic units = units^{3}; (i.e. (3 x 4 x 2) + (3 x 2 x 2) = 36) **5.MD.C.5**

Part 3 – Reflection and Conceptual Understanding

Student Answer: True; True; True **NOTE:** Teacher should stress this diagram. Students must know - draw polygons to match words 4 sided figure (general quadrilateral)…then group the parallelograms (rectangle, square, rhombus). **5.G.B.4**

Learning Opportunity 77

Part 1 – Numeracy Development **CCSS**

1. First Row: $^{7}/_{12}$; $^{1}/_{2}$; **4.NF.A.1; 5.NBT.B.7**
2. Shade 1 out of 5; 0.2; **3.NF.A.1; 5.NBT.B.7**
3. $1\ ^{0}/_{5}$, Shade $^{5}/_{4} = 1$ on fifths shown; $2\ ^{3}/_{5}$, Shade $^{13}/_{5}$ on fifths shown **3.NF.A.1; 5.NBT.B.6**
4. **D –** 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2 2.4; **PF** – $^{0}/_{5}$; $^{1}/_{5}$; $^{2}/_{5}$; $^{3}/_{5}$; $^{4}/_{5}$; **IF –** $^{5}/_{5}$; $^{6}/_{5}$; $^{7}/_{5}$; $^{8}/_{5}$; $^{9}/_{5}$; $^{10}/_{5}$; $^{11}/_{5}$; $^{12}/_{5}$; **MN -** $1\ ^{0}/_{5}$; $1\ ^{1}/_{5}$; $1\ ^{2}/_{5}$; $1\ ^{3}/_{5}$; $1\ ^{4}/_{5}$; $2\ ^{0}/_{5}$; $2\ ^{1}/_{5}$; $2\ ^{2}/_{5}$; **NOTE:** Ask students, write three equivalencies (i.e. $1\ ^{4}/_{5} = 1.8 = {}^{9}/_{5}$) **5.NBT.B.7**

Part 2 – Application Practice

5. Top to Bottom: quadrilaterals; parallelograms; trapezoid; rectangles**;** rhombuses; squares; equilateral; isosceles; scalene; **5.G.B.3**
6. Shade ½ horizontally and shade ½ vertically. *Double cross-hatched is* $^{1}/_{4}$; ½ x ½ = $^{\mathbf{1}}/_{\mathbf{4}}$ **Yes, 1 of 4 should be double-shaded.** **5.NF.B.4**
7. **A – y = 2(x)**; **NOTE:** This problem is challenging at first, but it is mainly exposure. Tell students to look for x,y relationship (x 2 change) **5.OA.B.3**
8. **Choose any point on the number line:** for instance, $1.6 = {}^{8}/_{5} = 1\ ^{3}/_{5}$ **4.NF.A.2**
9. **B –** $^{\mathbf{20}}/_{\mathbf{24}}$**;** (i.e. $^{\mathbf{4}}/_{\mathbf{8}} + {}^{\mathbf{2}}/_{\mathbf{6}} = {}^{\mathbf{12}}/_{\mathbf{24}} + {}^{\mathbf{8}}/_{\mathbf{24}} = {}^{\mathbf{20}}/_{\mathbf{24}}$) **5.NF.A.1**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Right; Obtuse; Acute; **NOTE:** Review as needed. The angles will be needed to classify triangles by their angles. **4.MD.C.5**

Learning Opportunity 78

Part 1 – Numeracy Development **CCSS**

1. First Row: $^{2}/_{3}$; $^{1}/_{2}$; **4.NF.A.1; 5.NBT.B.7**
2. Shade 1 out of 2; 0.5; **3.NF.A.1; 5.NBT.B.7**
3. $2\ ^{0}/_{2}$, Shade $^{4}/_{2} = 2 = 2\ ^{0}/_{2}$ on halves shown; $1\ ^{1}/_{2}$, Shade $^{3}/_{2} = 1\ ^{1}/_{2}$ on halves shown **3.NF.A.1; 5.NBT.B.6**
4. **D –** 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, **PF** – $^{0}/_{2}$; $^{1}/_{2}$; **IF –** $^{2}/_{2}$; $^{3}/_{2}$; $^{4}/_{2}$; $^{5}/_{2}$; $^{6}/_{2}$; $^{7}/_{2}$; $^{8}/_{2}$; $^{9}/_{2}$; $^{10}/_{2}$; $^{11}/_{2}$; $^{12}/_{2}$; **MN -** $1\ ^{0}/_{2}$; $1\ ^{1}/_{2}$; $2\ ^{0}/_{2}$; $2\ ^{1}/_{2}$; $3\ ^{0}/_{2}$; $3\ ^{1}/_{2}$; $4\ ^{0}/_{2}$; $4\ ^{1}/_{2}$; $5\ ^{0}/_{2}$; $5\ ^{1}/_{2}$; $6\ ^{0}/_{2}$; **NOTE:** write three equivalencies (i.e. $3\ ^{1}/_{2} = 3.5 = {}^{5}/_{2}$) **5.NBT.B.7**

Part 2 – Application Practice

5. Check Students' work for accuracy; Correct any misunderstandings with interventions in following days – exposure **5.G.B.3**
6. **A –** $^{\mathbf{33}}/_{\mathbf{8}}$ **–** (i.e. $^{\mathbf{11}}/_{\mathbf{4}} \times {}^{\mathbf{3}}/_{\mathbf{2}} = {}^{\mathbf{33}}/_{\mathbf{8}}$) **5.NF.B.4**
7. **C – y = x - 2**; **NOTE:** This problem is challenging at first, but it is mainly exposure. **5.OA.B.3**
8. **Choose any point on the number line:** for instance, $2.5 = {}^{5}/_{2} = 2\ ^{1}/_{2}$ **4.NF.A.2**
9. **A –** $^{\mathbf{4}}/_{\mathbf{24}}$**;** (i.e. $^{\mathbf{4}}/_{\mathbf{8}} - {}^{\mathbf{2}}/_{\mathbf{6}} = {}^{\mathbf{12}}/_{\mathbf{24}} - {}^{\mathbf{8}}/_{\mathbf{24}} = {}^{\mathbf{4}}/_{\mathbf{24}}$) **5.NF.A.1**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Acute; Acute; Obtuse; **NOTE:** Review as needed. The angles will be needed to classify triangles by their angles. **4.MD.C.5**

Learning Opportunity 79

Part 1 – Numeracy Development **CCSS**

1. Check Students' Work: Obtuse: Ray drawn so angle is larger than 90°; Right Angle 90°; Acute: Ray is drawn so less than 90° **4.MD.C.4**
2. Shade 3 out of 4; 0.75; **3.NF.A.1; 5.NBT.B.7**
3. $1\ ^{0}/_{4}$, Shade $^{4}/_{4} = 1 = 1\ ^{0}/_{4}$ on fourths shown; $1\ ^{1}/_{4}$, Shade $^{5}/_{4} = 1\ ^{1}/_{4}$ on fourths shown **3.NF.A.1; 5.NBT.B.6**
4. **D –** 0.25, 0.5, 0.75, 1.25, 1.5, 1.75, 2.25, 2.5, 2.75 **PF** – $^{0}/_{4}$; $^{2}/_{4}$; $^{3}/_{4}$; **IF –** $^{4}/_{4}$; $^{5}/_{4}$; $^{6}/_{4}$; $^{7}/_{4}$; $^{8}/_{4}$; $^{9}/_{4}$; $^{10}/_{4}$; $^{11}/_{4}$; $^{12}/_{4}$; **5.NBT.B.7**
   MN - $1\ ^{0}/_{4}$; $1\ ^{1}/_{4}$; $1\ ^{2}/_{4}$; $1\ ^{3}/_{4}$; $2\ ^{0}/_{4}$; $2\ ^{1}/_{4}$; $2\ ^{2}/_{4}$; $2\ ^{3}/_{4}$; $3\ ^{0}/_{4}$; **NOTE:** write three equivalencies (i.e. $2\ ^{1}/_{4} = 2.25 = {}^{5}/_{4}$)

Part 2 – Application Practice

5. Top to Bottom: quadrilaterals; parallelogram; trapezoid; rectangles**;** rhombuses; squares; equilateral; isosceles; scalene; **5.G.B.3**
6. **B –** $^{11}/_{4}$ **–** (i.e. $^{9}/_{2} - {}^{7}/_{4} = {}^{18}/_{4} - {}^{7}/_{4} = {}^{11}/_{4}$) **5.NF.A.1**
7. **C – y = x - 2**; **NOTE:** This problem is challenging at first, but it is mainly exposure. Tell students to look for x,y relationship (- 2 change) **5.OA.B.3**
8. **Choose any point on the number line:** for instance, $1.75 = {}^{11}/_{4} = 2\ ^{3}/_{4}$ **4.NF.A.2**
9. **A –** $^{10}/_{23}$**;** (i.e. $^{5}/_{8} \times {}^{2}/_{4} = {}^{10}/_{32}$) **5.NF.B.4**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Right; Acute; Obtuse; **NOTE:** Review as needed – discern from Triangles by sides – scalene, equilateral, isosceles **4.MD.C.5**

Learning Opportunity 80

Part 1 – Numeracy Development **CCSS**

1. Check Students' Work: Obtuse: Ray drawn so angle is larger than 90°; Right Angle 90°; Acute: Ray is drawn so less than 90° **4.MD.C.4**
2. Shade 1 out of 8; 0.125; **3.NF.A.1; 5.NBT.B.7**
3. $1\ ^{0}/_{8}$, Shade $^{8}/_{8} = 1 = 1\ ^{0}/_{8}$ on eighths shown; $1\ ^{3}/_{8}$, Shade $^{11}/_{8} = 1\ ^{3}/_{8}$ on eighths shown **3.NF.A.1; 5.NBT.B.6**
4. **D –** 0.125, 0.25, 0.5, 0.625, 0.75, 0.875, 1.000, 1.125, 1.25; 1.375; 1.5 **PF** – $^{0}/_{8}$; $^{1}/_{8}$; $^{2}/_{8}$; $^{3}/_{8}$; $^{4}/_{8}$; $^{5}/_{8}$; $^{6}/_{8}$; $^{7}/_{8}$ **5.NBT.B.7**
   IF – $^{8}/_{8}$; $^{9}/_{8}$; $^{10}/_{8}$; $^{11}/_{8}$; $^{12}/_{8}$; **MN -** $1\ ^{0}/_{8}$; $1\ ^{1}/_{8}$; $1\ ^{2}/_{8}$; $1\ ^{3}/_{8}$; $1\ ^{4}/_{8}$; **NOTE:** write three equivalencies (i.e. $2\ ^{1}/_{8} = 2.125 = {}^{17}/_{8}$)

Part 2 – Application Practice

5. Top to Bottom: quadrilaterals; parallelogram; trapezoid; rectangles**;** rhombuses; squares; equilateral; isosceles; scalene; **5.G.B.3**
6. **C – K = (5 x 6) – (3 x 8)** **4.MD.A.3; 4.NBT.B.5**
7. **D – 64 cubic feet = 64 feet^{3}** (i.e. 4ft x 4 ft x 4 ft = 64 cubic feet) **5.MD.C.5**
8. **Choose any point on the number line:** for instance, $1.125 = {}^{9}/_{8} = 1\ ^{1}/_{8}$ **4.NF.A.2**
9. 28.36 feet; **;** Keisha = 9 feet; Mary = 9.4 feet; Carla = 9.96 feet; (i.e. 9.00 + 9.40 + 9.96 feet = 28.36 feet) **5.NBT.B.7**

Part 3 – Reflection and Conceptual Understanding

Student Answer: Obtuse; Right; Acute; **NOTE:** Review as needed – discern from Triangles by sides – scalene, equilateral, isosceles **4.MD.C.5**