# Grade 3 MATH 

## Fall STAAR Walk

## 80 Daily Learning Opportunities

## "Journey of <br> Knowledge"

## Fall Semester

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## 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

## Introduction and Implementation - Bridge Resource

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.

## Introduction and Implementation - Bridge Resource

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 ( $\left.3^{\text {rd }}\right)$ 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,

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# Grade 3 

# Mathematics <br> for STAAR 

Fall Semester

## 80 Daily Learning Opportunities

Student Name: $\qquad$

## Teacher Name:

$\qquad$

## _ PART 1: Numeracy Development

1. Find the sum:
a.) $3+2=\square$
b.) $4+1=\square$
c.) $2+3=\square$
d.) $3+5=\square$
2. Write the "Ones" and "Tens" and write the number in standard form.
a.)

b.)

c.)


$\qquad$ Tens


One
3. Fill in the boxes with the missing numbers on the whole number lines shown below.


## PART 2: Application Practice

4. Kimberly is thinking of a number. It is a two digit number that is greater than 31. It is also an even number. Find Kimberly's number.
(A) 28
(C) 108
(B) 42
(D) 73
5. Jesus has 2 stacks of ten blocks. He also has 4 single blocks. Write the total number of blocks in standard form.

6. Priscilla and Victor picked flowers. If Victor had 18 flowers in his basket and Priscilla 11, what was the total numbers of flowers they had altogether?
(A) 27
(C) 9
(B) 22
(D) 29
7. William has 12 toys. Julie has 8 toys. Henry has 10 more toys than William. How many toys does Henry have?


## PART 3: Reflection and Conceptual Understanding

Two students each pick a two digit number. John selects 14. Sally chose 26. Explain on the lines below why Sally's number is larger than John's.

## - PART 1: Numeracy Development -

1. Find the sum:
a.) $3+3=\square$
b.) $3+1=$

c.) $4+4=\square$
d.) $1+4=$

2. Write the "Ones" and "Tens" and write the number in standard form.
a.)

Tens $\qquad$ Ones
b.)

Tens $\qquad$ Ones


3. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)


## PART 2: Application Practice

4. Find the sum of $32+41$.
(A) 28
(C) 108
(B) 42
(D) 73
5. If Tony is thinking of a number that has 5 tens and three ones, write Tony's number in standard form.

6. Betty has five coins. Emma gives her 4 more coins. Betty gives 1 coin to John. How many coins does Betty have now?
(A) 11
(C) 9
(B) 8
(D) 10
7. Ralph has 14 blocks. Kate has 10 blocks.

Dave has 15 more blocks than Ralph. How many blocks do Kate and Ralph have combined?

$\square$

## - PART 3: Reflection and Conceptual Understanding

Sam told Bill, "I have 35 marbles. You have only 24 marbles. I have more marbles than you because the ' 5 ' in my number of marbles is bigger than the ' 4 ' in your 24 marbles." Is Sam correct in his thinking?

## PART 1: Numeracy Development

1. Find the sum:
a.) $3+4=\square$
b.) $6+2=\square$
c.) $1+5=\square$
d.) $2+4=\square$
2. Find the missing addend to 'Make 10.'
a.) $8+2=10$
e.) $0+\square=10$
b.) $9+\square=10$
f.) $6+\square=10$
c.) $7+\square=10$
g.) $4+\square=10$
d.) $5+\square=10$
h.) $1+\square=10$
3. Is the number even or odd?
a.) $8 \Rightarrow$ even
b.) $5 \Rightarrow$
c.) $7 \Rightarrow$ $\qquad$
d.) $6 \Rightarrow$

4. Fill in the boxes with the missing numbers on the whole number lines shown below.


## PART 2: Application Practice

5. Find the sum of $17+12$.
(A) 29
(C) 28
(B) 5
(D) 27
6. Write the sum of 2 tens and 4 ones and 1 ten and 3 ones in standard form.
7. Maritza is on a bus with 12 people. At the next stop, 5 people get on the bus and 6 people get off the bus. How many people are on the bus, now?
(A) 11
(C) 9
(B) 8
(D) 10
8. Jennifer lives 13 city blocks from school. Dave lives 10 blocks further from school than Jennifer. How many city blocks does Dave live from school?


## PART 3: Reflection and Conceptual Understanding

Yessica had a pile of cubes on the floor. She made 2 equal groups of ten cubes. She had 7 single cubes left over. Her friend, Samantha, has a total of 22 cubes. Who has the most cubes? Explain your thinking.

1. Find the sum:
a.) $4+4=\square$
b.) $6+6=\square$
c.) $7+7=\square$
d.) $9+9=\square$
2. Find the missing addend to 'Make 10.'
a.) $3+7=10$
e.) $6+\square=10$
b.) $2+\square=10$
f.) $8+\square=10$
c.) $7+\square=10$
g.) $9+\square=10$
d.) $1+\square=10$
h.) $5+\square=10$
3. Is the number even or odd?
a.) $7 \Rightarrow$ odd
b.) $17 \Rightarrow$ $\qquad$
c.) $4 \Rightarrow$ $\qquad$
d.) $14 \Rightarrow$

4. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)


PART 2: Application Practice
5. The graph shows the number of $7^{\text {th }}$ graders that have tickets to the circus, a movie, or the dance.


PART 3: Reflection and Conceptual Understanding
How do I know if a number is even or odd? Use the numbers 3 and 4 to explain your answer.

## PART 1: Numeracy Development

1. Find the sum:
a.) $9+2=\square$
b.) $6+5=\square$
c.) $9+8=\square$
d.) $9+9=\square$
2. Find the missing addend to 'Make 10.'
a.) $3+\square=10$
e.) $2+\square=10$
b.) $5+\square=10$
f.) $6+\square=10$
c.) $8+\square=10$
g.) $9+\square=10$
d.) $1+\square=10$
h.) $4+\square=10$
3. Is the number even or odd?
a.) $11 \Rightarrow \quad$ odd
b.) $18 \Rightarrow$ $\qquad$
c.) $8 \Rightarrow$ $\qquad$
d.) $21 \Rightarrow$

4. Fill in the boxes with the missing numbers on the whole number lines shown below.


PART 2: Application Practice
5. The bar graph shows the number of laps three girls ran around the school track last week.

a.) Label the total number of laps each girl ran above each vertical bar.
b.) How many fewer laps did Val run than Jan?

c.) How many more laps did Ann run than Jan?

d.) How many laps did Val and Ann run combined?


PART 3: Reflection and Conceptual Understanding
The teacher asked the following question, "If the number 3 is an odd number, then are the numbers 13 , 33 and 73 odd numbers, too? Explain your thinking.

PART 1: Numeracy Development

1. Find the sum:
a.) $5+7=\square$
b.) $6+8=\square$
c.) $8+8=\square$
d.) $4+9=\square$
2. Find the missing addend to 'Make 10.'
a.) $5+\square=10$
e.) $3+\square=10$
b.) $9+\square=10$
f.) $8+\square=10$
c.) $4+\square=10$
g.) $2+\square=10$
d.) $6+\square=10$
h.) $7+\square=10$
3. Is the number even or odd?
a.) $34 \Rightarrow$ $\qquad$
b.) $25 \Rightarrow$ $\qquad$
c.) $42 \Rightarrow$ $\qquad$
d.) $68 \Rightarrow$

4. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)


PART 2: Application Practice
5. The bar graph shows the number of marbles four boys own.


## PART 3: Reflection and Conceptual Understanding

"Even and odd numbers are easy. Always look at the 'ones' digit no matter how big the number. If that number is odd, then the number is odd. If that number is even, the number is even." Is this correct?

1. Sums and addends:
a.) $9+\square=11$
b.) $6+9=\square$
c.) $\square+7=11$
d.) $9+3=\square$
2. Write the "Ones" and "Tens" and write the number in standard form.
a.)

Tens $\qquad$ Ones
b.)

c.)
 Tens___Ones
$\qquad$ $\square$
3. Fill in the boxes with the missing numbers on the whole number lines shown below.


## PART 2: Application Practice

4. The graph shows the number of cars that three salesmen sold during the month of August.

a.) Label the total number of cars sold by each Car Salesman above each column of stars.
b.) How many cars were sold by both Fred and Al?

c.) How many more cars were sold by Fred than Jesus?

d.) How many fewer cars were sold by Al than Jesus?
Each represents 10 cars $\square$

PART 3: Reflection and Conceptual Understanding
Stars are placed above ' 8 ' and '10' on a number line. How many 'spaces' are between 8 and the number 10 ? Use the number line on the right to help explain your answer below. Hint: What number added to 8 equals 10 ?


FALL STAAR WALK - Learning Opportunity 08

## PART 1: Numeracy Development

1. Sums and addends:
a.) $\square+5=10$
b.) $3+6=\square$
c.) $7+\square=15$
d.) $9+3=\square$
2. Write the "Ones" and "Tens" and write the number in standard form.
a.)

$\qquad$ Ones
b.)


c.)

3. Fill in the boxes with the missing numbers on the whole number lines shown below.


PART 2: Application Practice
4. Find the sum of $28+72$.
(A) 98
(C) 102
(B) 44
(D) 100
6. John has 12 dollar bills. He received five dollars from Bill and the rest from his father. How many dollars did John's father give him?

5. Victoria has 14 coins. Pauline gives her 5 more coins. Victoria gives 8 coins to Jill as a gift. How many coins does Victoria have now?
(A) 11
(C) 9
(B) 8
(D) 10
7. Luz counted the 28 floors in a tall building.

Patsy counted 32 total floors in another building. What is the sum of both girls' counts?


PART 3: Reflection and Conceptual Understanding
Dots are placed above ' 7 ' and '10' on a number line. How many 'spaces' are between 7 and the number 10 ? Use the number line on the right to help explain your answer below. Hint: Find the missing addend?


## PART 1: Numeracy Development

1. Sums and addends:
a.) $8+\square=11$
b.) $7+4=\square$
c.) $\square+9=11$
d.) $8+3=\square$
2. Find the missing addend to 'Make 10.'
a.) $9+\square=10$
e.) $6+\square=10$
b.) $3+\square=10$
f.) $2+\square=10$
c.) $8+\square=10$
g.) $4+\square=10$
d.) $7+\square=10$
h.) $5+\square=10$
3. Is the number even or odd?
a.) $27 \Rightarrow$ $\qquad$
b.) $54 \Rightarrow$ $\qquad$
c.) $63 \Rightarrow$ $\qquad$
d.) $50 \Rightarrow$

4. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)

100

108


PART 2: Application Practice
5. The graph shows the number of children purchasing tickets to the movie, a play, or the circus.

a.) Label the total number of tickets for each Activity Choice above the column of tickets.
b.) How many more Circus tickets were sold than Movie tickets?

c.) How many fewer Play tickets were sold than Circus tickets?

d.) How many total tickets were sold for all 3 activities?

Each means 10 tickets $\square$

PART 3: Reflection and Conceptual Understanding
Your mother asks you, "How can I tell that 48 is an even number?" Explain your reply to her below.

## 000

## PART 1: Numeracy Development

1. Sums and addends:
a.) $7+5=\square$
b.) $3+\square=12$
c.) $4+\square=10$
d.)

2. Write the "Hundreds", "Tens", "Ones" and the number in standard form.
a.)

b.)

丹月 \# \# \#

Hundreds $\qquad$ Tens $\qquad$ Ones

Hundreds $\qquad$ Tens $\qquad$ Ones
$\qquad$ $\square$
3. Fill in the boxes with the missing numbers on the whole number lines shown below.


PART 2: Application Practice
4. The bar graph shows the number of volunteer hours each person worked last year.

a.) Label the hours on the graph. (Note: Half of 30 is 15)
b.) What two volunteers have an equal number of hours?

c.) What two volunteers have a sum of 90 hours?

d.) What two volunteers have a difference of 45 hours? $\square$

## PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line. Complete the addition problem below that the number line model represents.

$$
\square+\square=11
$$



## PART 1: Numeracy Development

1. Find the Differences.
a.) 7-5 = $\square$
b.) $10-6=$

c.) $6-0=$

d.) $16-9=$ $\square$
2. Write: "Hundreds", "Tens", "Ones" and the number in standard form.
a.)


b.)


Hundreds $\qquad$ Tens $\qquad$ Ones
$\square$

Hundreds $\qquad$ Tens $\qquad$ Ones
3. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)

b.)


PART 2: Application Practice
4. Find the difference of 45-32.
(A) 77
(C) 13
(B) 8
(D) 12
6. Jose has 19 balloons. He gave his brother 9 balloons and a friend four balloons. How many balloons does Jose have left?

5. Claire spent 45 cents on candy. Jasmine bought a new bow for her hat for 97 cents. How much more money did Jasmine spend than Claire?
(A) 53
(C) 142
(B) 52
(D) 45
7. Pedro is thinking of the number 34. His friend, Mitch, is thinking of a number that has 4 tens and 2 ones more than Pedro's number. Find Mitch's number.


## PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line. Complete the addition problem below that the number line model represents.


## PART 1: Numeracy Development

1. Find the Differences.
a.) 8-5 = $\square$
b.) $10-3=$

c.) $9-4=$

d.) $11-9=$ $\square$
2. Write: "Hundreds", "Tens", "Ones" and the number in standard form.
a.)
 H $\theta$
$B$
b.)


Hundreds $\qquad$ Tens $\qquad$ Ones
$\square$

Hundreds $\qquad$ Tens $\qquad$ Ones
3. Fill in the boxes with the missing numbers on the whole number lines shown below.


PART 2: Application Practice
4. Find the difference of 99-22.
(A) 77
(C) 13
(B) 8
(D) 12
6. What are the three odd numbers that are between 32 and 38 ? (Hint: Write the numbers from 32 to 38 .)

5. Frank spent 97 cents on pencils. Jorge bought a small pack of gum for 45 cents. How much money did both boys spend at the store?
(A) 53
(C) 142
(B) 52
(D) 45
7. Ariana has 49 pennies. She has 10 less pennies than Vera. How many pennies does Vera have?


PART 3: Reflection and Conceptual Understanding
Fill in the boxes on the number line.
Write the addition problem below that the number line model represents.
$+\quad=$

1. Find the Subtrahends.
a.) $8-\square=6$
b.) 10 -

c.) 9-

d.) 11 -

2. Fill in the boxes with the missing numbers on the whole number lines shown below.


PART 2: Application Practice
4. Find the sum and difference of 58 and 31.
(A) $17 ; 89$
(C) $89 ; 37$
(B) $89 ; 27$
(D) $98 ; 27$
6. What are the two even numbers that are between 17 and 21?

5. Layla's mother gave her 12 small cards giving her a total of 19 cards. How many cards did Layla have at first?
(A) 7
(C) 31
(B) 5
(D) 11
7. Damian has 5 less pencils than Joseph. If Joseph has 15 pencils, how many does Damian have?


## - PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line. Write the addition problem below that the number line model represents.


PART 1: Numeracy Development

1. Find the Minuends.
a.) $\square-1=2$
b.) $\square-3=1$
c.) $\square-3=3$
d.) $\square-4=2$
$\qquad$ Thousands $\qquad$ Hundreds $\qquad$ Tens $\qquad$ Ones = $\square$
2. Fill in the boxes with the missing numbers on the whole number lines shown below.


PART 2: Application Practice
4. Calculate the sum of 57 and 35 .
(A) 92
(C) 32
(B) 22
(D) 82
6. Mr. Jackson rode his bicycle 26 kilometers. Ms. Simpson rode her bike 47 kilometers. How many more kilometers did Ms. Simpson ride than Mr. Jackson?

5. Susan counted her money. She had 35 cents. Amelia has 10 cents less than Susan. How much money do the two girls have combined?
(A) 45
(C) 50
(B) 60
(D) 25
7. Quentin has 26 toy army men. He has 5 more than Hank, and he has 10 less than Mateo. How many army men do Hank and Mateo each own?


## PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line.
Write the addition problem below that the number line model represents.

1. Find the Minuends.
a.)
 $-7=2$
b.) $\square-4=1$
c.)

d.)
$\square-4=6$
2. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)

b.)


## PART 2: Application Practice

4. Calculate the difference of 42-19.

Check your answer by addition.
(A) 51
(C) 23
(B) 37
(D) 61
6. Choose any even number. Choose any odd number. Add them. Is your sum an even or odd number?

5. Chelsea read for 90 minutes. Her sister read for 50 minutes less than Chelsea. What was the total time the girls read altogether?
(A) 40
(C) 50
(B) 140
(D) 130
7. James has 3 thousands 4 tens and 9 ones. What is this number in standard form? Careful!

## - PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line. Complete the subtraction problem below the number line model represents.

$$
\square-\square=5
$$



## PART 1: Numeracy Development

1. Find: Minuends, Subtrahends or Differences.
a.) $12-7=\square$
e.) $\square-7=2$
b.) $13-\square=5$
f.) 8-

$=1$
c.)
 - $6=9$
g.) $15-9=$ $\square$
d.) 9 - $\square$ $=2$
h.) $\square$ $-7=6$
2. Find the missing addend to 'Make 10 or 100.'
a.) $3+7=10$
e.) $2+\square=10$
b.) $30+70=100$
f.) $20+\square=100$
c.) $8+\square=10$
g.) $4+\square=10$
d.) $80+\square=100$
h.) $40+\square=100$
3. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)

b.)


PART 2: Application Practice
4. Calculate the difference of 65-37.

Check your answer by addition.
(A) 27
(C) 32
(B) 28
(D) 102
6. Write each of the two numbers below in standard form and compare using " $>$ ".

- 4 hundreds 3 tens =
$-400+3=$ $\qquad$


5. Janna's teacher requires 25 minutes of reading each day. What is the total number of minutes she is required to read on Monday and Tuesday?
(A) 40
(C) 50
(B) 140
(D) 130
6. What is the value of the ' 6 ' in the number 2,860?

## PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line.
Complete the subtraction problem below the number line model represents.
$\square$

## PART 1: Numeracy Development

1. Find: Minuends, Subtrahends or Differences.
a.) $11-3=\square$
e.) $\square-1=2$
b.) $12-\square=6$
f.) $4-\square=3$
c.) $\square-4=9$
g.) $18-9=\square$
d.) $6-\square=2$
h.) $\square$ $-8=9$
2. Find the missing addend to 'Make 100.'
a.) $90+\square=100$
e.) $80+\square=100$
b.) $10+\square=100$
f.) $20+\square=100$
c.) $70+\square=100$
g.) $50+\square=100$
d.) $30+\square=100$
h.) $40+\square=100$
3. Fill in the boxes with the missing numbers on the whole number lines shown below.
a.)



PART 2: Application Practice
4. Calculate the sum of $42+19$.
(A) 51
(C) 23
(B) 37
(D) 61
6. Write in Standard Form and Compare:
a) 3 Thousands, 2 Tens, 7 ones =
b) $3,000+20+4=$ $\qquad$

5. What is the sum of the three numbers in the box?
(A) 40
(C) 50
(B) 140
(D) 130
$20+15+15=$ $\qquad$
7. What is the difference between the two numbers?
a) $30+5=$ $\qquad$
b) $70+1=$ $\qquad$

## PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line.
Write the subtraction problem below the number line model represents.


1. Subtrahends/Minuends
a.) $12-\square=5$
b.) $\square-3=8$
c.) $7-\square=1$
d.) $\square-4=6$
2. Write: "Thousands", "Hundreds", "Tens", "Ones" = standard form.

$\qquad$ Thousands $\qquad$ Hundreds $\qquad$ Tens $\qquad$ Ones = $\square$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 1: $0,1,2, \ldots, \underline{1}, \underline{7}, \underline{10}$
b.) Multiples of 2: $0,2,4, \ldots, 14,14,14$,
c.) Multiples of 10: 0,10 , 20, $\qquad$ , $\qquad$ , $\qquad$ , 60 , $\qquad$ , $\qquad$ , $\qquad$ 100

## PART 2: Application Practice

4. Compute mentally: $50-10$, then add 20 .
(A) 60
(C) 50
(B) 40
(D) 10
5. What is the value of each digit in the number, 9,803?

6. Betty has 12 pieces of jewelry. She has 10 more pieces of jewelry than Kara. How many pieces of jewelry do they have altogether?
(A) 20
(C) 22
(B) 2
(D) 14
7. Rich is 7 years old. His sister, Ava, is 6 years younger than Rich, and his Dad is 35 years older than Rich. Compute Ava's and Rich's Dad's age.


## - PART 3: Reflection and Conceptual Understanding

Fill in the boxes on the number line. Write the subtraction problem below that the number line model represents.


PART 1: Numeracy Development

1. Find the correct value for each equation.
a.) $5+3=\square$
e.) $\square$ - $5=2$
b.) $9-\square=6$
f.) $8-\square$ $=3$
c.) $\square-7=8$
g.) $4+7=$

d.) $6+\square=13$
h.) $\square+3=9$
2. Find the missing addend to 'Make 100.'
a.) $70+\square=100$
e.) $30+\square=100$
b.) $20+\square=100$
f.) $80+\square=100$
c.) $60+\square=100$
g.) $40+\square=100$
d.) $50+\square=100$
h.) $90+\square=100$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 1: $\mathbf{0}$ 1,2 $\qquad$ , __ , $\qquad$ , ——, $\qquad$ 10
b.) Multiples of 2: $\mathbf{0}, \underline{2}, \ldots, \ldots$,
$\qquad$ , c.) Multiples of 10: $\mathbf{0}$, $\qquad$ , , _ـ, , __ , __ , , _, 20 —' $\square$

## PART 2: Application Practice

4. Compute the sums and differences.
a.) $\begin{array}{r}48 \\ +\quad 35 \\ \hline\end{array}$
b.) $\begin{array}{r}79 \\ -\quad 56 \\ \hline\end{array}$
c.) $\begin{array}{r}43 \\ -\quad 12 \\ \hline\end{array}$
5. Use the clues to write a four digit number.
6. Is the sum of the two numbers even or odd?
a) $90+2=$ $\qquad$
b) The ones digit is even and less than 3.
c) The tens digit equals zero.
d) The thousands digit is 5 .
a) The hundreds digit is odd and greater than 8.
b) $50+9=$ $\qquad$
7. What are the values of the ' 7 ' in the number 7,073?
(A) 7 and 7,000
(C) 70 and 7,000
(B) 700 and 7,000
(D) 7 and 700

100

## PART 3: Reflection and Conceptual Understanding

Mateo and Ricardo wrote the same addition problem. Is either way okay? Explain on the lines below.

$$
\text { Mateo: } 2+5=7 \quad \text { Ricardo: } 7=5+2
$$

1. Find the correct value for each equation.
a.) $7+6=\square$
е.) $\square-6=2$
b.) 11 -

f.) 9
$\square=$
g.) $4+8=$ $\square$
c.)
 $-3=7$
h.) $\square+5=9$
2. Find the missing addend to 'Make 10 or 100.'
a.) $7+\square=10$
e.) $3+\square=10$
b.) $20+\square=100$
f.) $80+\square=100$
c.) $60+\square=100$
g.) $4+\square=10$
d.) $5+\square=10$
h.) $90+\square=100$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 2: $\mathbf{0}$, $\qquad$ 4 $\qquad$ - $\qquad$
$\qquad$ , __ ,
b.) Multiples of 5: $\mathbf{0}, \mathbf{5}$ $\qquad$ ,
c.) Multiples of 10: $\qquad$ , __ ,

## PART 2: Application Practice

4. Compute the sums and differences.
a.) $\begin{array}{r}98 \\ -\quad 57 \\ \hline\end{array}$
b.) $\begin{array}{r}79 \\ 46\end{array}$
c.) $\begin{array}{r}73 \\ -\quad 39 \\ \hline\end{array}$
5. What are the values of the ' 8 ' in the number 8,028?
(A) 8 and 8,000
(C) 80 and 8,000
(B) 800 and 8,000
(D) 8 and 800
6. Use the clues to write a four digit number.
7. Expand each number to show each digit's value.
a) The thousands digit is even and less than 4.
b) The tens digit is odd and greater than 7 .
c) The ones digit equals zero.
d) The hundreds digit is 6 . $\square$
a) $72=$ $70+2$ $70+2$
b) $76=$
c) $138=$
$\qquad$

## PART 3: Reflection and Conceptual Understanding

When we add or subtract numbers, why are numbers lined-up on their right digit? See examples.
All numbers begin on their right side

## PART 1: Numeracy Development

1. Write if each number is even or odd.
a.) 45
e.) 49
b.) 30
f.) 88
c.) 97
g.) 50
d.) 26
h.) 71
2. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
3. Find the missing addend to 'Make 1,000'
a.) $700+300=1000$ e.) $300+\square=1000$
b.) $200+\square=1000$
f.) $800+\square=1000$
c.) $600+\square=1000$
g.) $400+\square=1000$
d.) $500+\square=1000$
h.) $900+\square=1000$
a.) Multiples of 2: $\mathbf{0}$,
b.) Multiples of 5 : $\qquad$ _,
$\qquad$ , __ , _ , _ , , _ , $\qquad$ , , __ ,
c.) Multiples of 3: $\qquad$ ——, ——

PART 2: Application Practice
4. Compute the sums and differences.
a.) $\begin{array}{r}142 \\ +\quad 75 \\ \hline\end{array}$
b.) $\begin{array}{r}93 \\ -\quad \underline{28} \\ \hline\end{array}$
c.) $\begin{array}{r}279 \\ -152 \\ \hline\end{array}$
6. Compare the three numbers below using the symbol " $>$ ". Place the numbers in the correct order in the boxes.

5. What is the value and the place of the ' 0 ' in the number 5,087?
(A) 0 and tens
(C) 0 and hundreds
(B) 0 and ones
(D) 0 and thousands
7. Expand each number to show each digit's value.
a) $88=$
b) $50=$
c) $107=$

## PART 3: Reflection and Conceptual Understanding

Is it correct to write the addition equations either way? Explain on the lines below.

$$
4+5=9 \quad 9=5+4
$$

PART 1: Numeracy Development

1. Write if each number is even or odd.
a.) 90
e.) 549
b.) 143 $\qquad$ f.) 63
c.) 290 $\qquad$ g.) 892
d.) 326
h.) 631
2. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 5: $\qquad$ , __ , $\qquad$ , $\qquad$ - $\qquad$ , $\qquad$ ,
a.) $800+\square=1000$ e.) $0+\square=1000$
3. Find the missing addend to 'Make 1,000'
b.) $100+\square=1000$
f.) $500+\square=1000$
c.) $200+\square=1000$
d.) $700+\square=1000$
g.) $300+\square=1000$
h.) $400+\square=1000$
b.) Multiples of 3: $\qquad$ , ,  ,
$\qquad$
c.) Multiples of 4: ——, $\qquad$

PART 2: Application Practice
4. Compute the sums and differences.
a.) $\begin{array}{r}142 \\ +\quad 275 \\ \hline\end{array}$
b.) $\begin{array}{r}162 \\ -\quad 48 \\ \hline\end{array}$
c.) $\begin{array}{r}674 \\ -\quad 254 \\ \hline\end{array}$
5. What is the value and the place of the ' 7 ' in the number 37,080 ?
(A) 7,000 and tens
(C) 700 and thousands
(B) 700 and ones
(D) 7,000 and thousands
6. Compare the three numbers below using the symbol " $>$ ". Place the numbers in the correct order on the line below.

$$
509 \quad 590 \quad 499
$$

7. Expand each number to show each digit's value.
a) $249=$
b) $740=$
c) $607=$

## PART 3: Reflection and Conceptual Understanding

A student was asked to find the sum of this addition problem: $193+87=\square$. He rewrote the problem vertically. Is his addition problem to the right set-up correctly? Explain your thinking.
$\qquad$

## PART 1: Numeracy Development

1. Write if each number is even or odd.
a.) 4,453 $\qquad$ e.) 2,543 $\qquad$
b.) 9,143 $\qquad$ f.) 63 $\qquad$
c.) 3 $\qquad$ g.) 8,893 $\qquad$
d.) 5,323 $\qquad$ h.) 1,683 $\qquad$
2. Compute half of each number.
a.) $4 \longmapsto$ 2
e.) $14 \rightleftarrows$
b.) $6 \Longrightarrow$
f.) $18 \Longleftrightarrow$
c.) $10 \Longleftrightarrow$
g.) $20 \rightleftharpoons$
d.) $8 \longmapsto$ $\qquad$
h.) $16 \rightleftarrows$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 3 : $\qquad$ , _ , $\qquad$ , $\qquad$ , _ـ, $\qquad$ , $\qquad$ , $\qquad$ -
b.) Multiples of 4: $\qquad$ , ,$-\quad$,
,$-\quad$,
$\qquad$ ,

## PART 2: Application Practice

4. Compute the sums and differences.
a.) $\begin{array}{r}167 \\ +145 \\ \hline\end{array}$
b.) $\begin{array}{r}267 \\ -\quad 48 \\ \hline\end{array}$
c.)
$\begin{array}{r}739 \\ -\quad 362 \\ \hline\end{array}$
5. What is the value and the place of the ' 2 ' in the number 9,280 ?
(A) 2,000 and ones
(C) 200 and hundreds
(B) 20 and tens
(D) 2,000 and hundreds
6. Compare the three numbers below using the symbol " <". Place the numbers in the correct order on the line below.

$$
290 \quad 209 \quad 198
$$

Least

## Greatest

7. Expand each number to show each digit's value.
a) $2,049=$
b) $7,400=$
c) $6,129=$

## PART 3: Reflection and Conceptual Understanding

The teacher wanted her class to think about place value. She wrote $3,000+90+2$ is equal to 392 . Why is the answer, 392, incorrect? Explain your thinking. Hint: Expand the number 392 and compare to her expansion.

## PART 1: Numeracy Development

1. Find the correct value for each equation.
a.) $15-8=$ $\square$
e.) $\square-9=1$
b.) $\square+8=12$
f.) $7-\square=4$
c.) $17-\square=8$
g.) $6+9=\square$
d.) $\square-6=4$
h.) $5+$ $\square$ $=9$
a.) $2 \Longleftrightarrow$
e.) $8 \longmapsto$
b.) $20 \Longleftrightarrow$
f.) $80 \rightleftharpoons$
c.) $6 \longmapsto$
g.) $4 \longmapsto$
d.) $60 \Longrightarrow$
h.) $40 \rightleftharpoons$
2. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 3: $\qquad$ , ـ_ , $\qquad$ , $\qquad$ - , $\qquad$
$\qquad$
$\qquad$ , $\qquad$ , $\qquad$
b.) Multiples of 4: $\qquad$ , ___ , ___ , _ , , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ c.) Multiples of 11: $\qquad$ , , , _ , , -,

## PART 2: Application Practice

4. Compute the sums and differences.
a.) $\begin{array}{r}264 \\ +\underline{508}\end{array}$
b.) $\begin{array}{r}80 \\ -\quad 49 \\ \hline\end{array}$
c.) $\begin{array}{r}609 \\ -\quad 302 \\ \hline\end{array}$
5. Karla's brother gave her 25 beads for her bracelet. His gift gave Karla a total of 45 beads. How many beads did Karla start with?
(A) 70
(B) 25
(C) 20
(D) 15
6. Compare the two numbers below using the symbol " > ". Place the numbers in the correct order on the line below.

$$
1,789 \quad 1,808
$$

Greatest
Least
7. Expand each number to show each digit's value.
a) $9,701=$
b) $1,003=$
c) $8,329=$

## PART 3: Reflection and Conceptual Understanding

Prove that the number ' 14 ' is an even number by using the expansion of that number: $14=10+4$. Explain your thinking. Hint: An even number means it can be separated into 2 equal groups. Use half of each number.

PART 1: Numeracy Development

1. Compare the following numbers using $<,>,=$.
a.) $45<54$
e.) 290

209
b.) 88

c.) 132
 123
d.) 75

75
f.) 27

18
g.) 210

210
h.) 55

60
a.) $8 \longrightarrow$
e.) $30 \Longrightarrow$
b.) $80 \longmapsto$
f.) $60 \Longleftrightarrow$
c.) $20 \Longleftrightarrow$
g.) $50 \Longrightarrow$
d.) $40 \Longleftrightarrow$
h.) $10 \Longleftrightarrow$
2. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 3: $\qquad$ , _ـ , $\qquad$ , $\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$ , __ , _ , $\qquad$
b.) Multiples of 4: $\qquad$ , __ , $\qquad$ , — , $\qquad$ , , — , $\qquad$ , _ , _ , _ c.) Multiples of 5: $\qquad$ —— , , ,

## PART 2: Application Practice

4. Compute the sums and differences.
a.) $\begin{array}{r}1,377 \\ +\quad 580 \\ \hline\end{array}$
b.) $\begin{array}{r}90 \\ -\quad 56 \\ \hline\end{array}$
c.) $\begin{array}{r}750 \\ -\quad \underline{403} \\ \hline\end{array}$
5. Chung is 10 years old. Mi is 8 years older than Chung. Mi is 4 years older than Jin. How old are Mi and Jin?
(A) 2,6
(B) 18,14
(C) 14,6
(D) 18,22
6. JoAnn is participating in a two-day cycling event that raises money for cancer prevention. She cycled 35 miles on Saturday. On Sunday, she cycled 12 miles further than on Saturday. What was the total distance she cycled?
(A) 47
(B) 82
(C) 23
(D) 24
7. Expand each number to show each digit's value.
a) $7,650=$
b) $4,162=$
c) $5,020=$ $\qquad$

## PART 3: Reflection and Conceptual Understanding

Multiples of 2 are the following: $\{0,2,4,6,8,10,12,14,16,18,20,22,24 \ldots\}$
How are multiples of 2 and even numbers connected to one another?

## PART 1: Numeracy Development

1. Compare the following numbers using $<,>,=$.
a.) $1,307 \bigcirc 1,703$
e.) $8,090 \bigcirc 8,187$
b.) $7,128 \bigcirc 7,228$
f.) 9,032

9,031
c.) 2,885

2,885
g.) $4,348 \bigcirc 4,348$
d.) 315

321
h.) 6,091
 9,091
2. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 4: $\qquad$ , __ , $\qquad$ , __, __ , __ , $\qquad$ , $\qquad$ ,
3. Compute half of each number.
a.) $12 \Longrightarrow$
e.) $10 \Longrightarrow$
b.) $18 \Longrightarrow$
f.) $16 \Longrightarrow$
c.) $20 \Longrightarrow$
g.) $14 \Longrightarrow$
d.) $50 \Longrightarrow$
h.) $30 \Longrightarrow$
b.) Multiples of 6: $\qquad$ , _ , $\qquad$ , _ , , , c.) Multiples of 11: $\qquad$
$\qquad$
$\qquad$ , - , , - , - , $\qquad$

PART 2: Application Practice
4. Compute the sums and differences.
a.) $\begin{array}{r}2,091 \\ +\quad \underline{5,809}\end{array}$
b.) $\begin{array}{r}208 \\ -\quad 64\end{array}$
c.) $\begin{array}{r}805 \\ -\quad 400 \\ \hline\end{array}$
6. If the pattern in the table below continues,
what will be the total number of pizzas eaten on
Friday (F)? Fill the correct amount in the table.

| Total Pizzas Eaten at Graham School |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{M}$ | $\mathbf{T}$ | $\mathbf{W}$ | Th | F |
| 6 | 9 | 12 | 15 |  |

5. Sam has 14 more toys than Bill. Alex has 20 less toys than Bill. Bill has 27 toys. How many toys do Sam and Alex have?
(A) 41,7
(B) 47,7
(C) 47,27
(D) 13,33
6. If the pattern in the table below continues, what will be the total number of pizzas eaten on Friday (F)? Fill the correct amount in the table.
7. Write the underlined digit's place and value.
a) $9, \underline{6} 08=$
b) $3,1 \underline{0} 2=$
c) $\mathbf{Z}, 440=$

PART 3: Reflection and Conceptual Understanding
When numbers are added together, the addends can be switched: $\quad 4+9=13$
Can the minuend and subtrahend in subtraction be switched, too? $15-9=6$
$9+4=13$.
Explain below.

FALL STAAR WALK - Learning Opportunity 27

## PART 1: Numeracy Development

1. Compare the following numbers using $<,>,=$.
a.) $6,309 \bigcirc 6,903$
e.) $4,027 \bigcirc 4,027$
b.) $4,558 \bigcirc 4,158$
f.) $2,032 \bigcirc 2,032$
c.) $1,805 \bigcirc 1,085$
g.) $8,642 \bigcirc 8,462$
d.) $3,001 \bigcirc 3,020$
h.) 5,035

5,055
2. Compute half of each number.
a.) $16 \Longrightarrow$
e.) $100 \Longrightarrow$
b.) $14 \Longrightarrow$
f.) $80 \Longrightarrow$
c.) $30 \Longrightarrow$
g.) $70 \Longrightarrow$
d.) $60 \Longrightarrow$
h.) $50 \Longrightarrow$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 6: $\qquad$ , $\qquad$ , _ , _ , _ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$
b.) Multiples of 7: $\qquad$ , $\qquad$ , _ , , , $\qquad$ , $\qquad$ , $\qquad$ ,
c.) Multiples of 11: $\qquad$
$\qquad$
$\qquad$ , $\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$ ,

## PART 2: Application Practice

4. Compute the sums and differences.
a.) $\begin{array}{r}3,806 \\ +\quad \underline{4,808} \\ \hline\end{array}$
b.) $\begin{array}{r}800 \\ -\quad 643\end{array}$
c.) $\begin{array}{r}709 \\ -450 \\ \hline\end{array}$
5. Mateo and Julio have started to run laps on the high school track. On the first day, they ran 4 laps. They ran 8 laps on the second day and 12 laps on the third day. If this pattern continues, how many laps will they run on the fourth day?
(A) 14
(B) 15
(C) 16
(D) 17
6. Jean and Sam compared the number of drawings they had completed in $5^{\text {th }}$ grade. Jean had drawn 90 and Sam 57. How many more drawings had Jean completed than Sam?
(A) 147
(B) 33
(C) 157
(D) 43
7. Correctly spell the following numbers in words.
a) 1 :
one
e) 5 : $\qquad$ i) 9 :
b) 2 : $\qquad$ f) 6 : $\qquad$ j) 10 :
c) 3 : $\qquad$ g) 7 :
k) 11 :
d) 4 : $\qquad$ h) 8 : $\qquad$ l) 12 : $\qquad$

PART 3: Reflection and Conceptual Understanding
Daquan's teacher asked the class a question. If there are 6 equal spaces between 15 and 9 on a number line, how many equal spaces are between 84 and 36 on a number line? Explain below.

## PART 1: Numeracy Development

1. Compute products. (Use multiples, if needed.)
a.) $4 \times 5=\square$
e.) $4 \times 4=$
$\square$
b.) $8 \times 2=\square$
f.) $9 \times 1=\square$
c.) $3 \times 2=$ $\square$ g.) $7 \times 3=\square$
d.) $4 \times 3=\square$
h.) $3 \times 7=\square$
a.)
2,5,3
b.) $7,6,1$
$2+3=5$
$6+1=7$
$7-1=6$
2. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 6: $\qquad$ , _ , , __ , _ , _ , $\qquad$ , , __ , __ , _
b.) Multiples of 7: $\qquad$ _ , , $\qquad$
$\qquad$
$\qquad$ , $\qquad$ _ , $\qquad$
c.) Multiples of 8: $\qquad$
$\qquad$ , ——, $\qquad$
$\qquad$
$\qquad$ , $\qquad$
$\qquad$

## PART 2: Application Practice

4. The graph shows the number of minutes that three students played soccer on the weekend.

| Soccer Practice Time |  |  |
| :--- | :--- | :---: |
| Jorge |  |  |
| Mateo |  |  |
| Alberto |  |  |

Each $=5$ minutes of practice
a.) How many minutes did Mateo and Jorge practice altogether? $\qquad$
b.) How many more minutes did Alberto practice than Mateo?
5. Sasha and Olivia had a contest: who could throw a ball the farthest. Sasha threw the ball 20 meters - half as far as Olivia. How far did Olivia throw the ball?
(A) 120
(B) 60
(C) 40
(D) 80
6. Correctly spell the following numbers in words.
a) 1 : $\qquad$ e) 5 : $\qquad$ i) 9 :
b) 2 : $\qquad$ f) 6 : $\qquad$ j) 10 :
c) 3 : $\qquad$ g) 7 : $\qquad$ k) 11 :
d) 4 : $\qquad$ h) 8 : $\qquad$ l) 12 :

PART 3: Reflection and Conceptual Understanding
What is the
multiplication equation shown in the number line model? Fill in ALL the boxes.


## - PART 1: Numeracy Development

1. Compute products. (Memorize and Multiples)
a.) $2 \times 5=\square$
e.) $5 \times 5=\square$
b.) $8 \times 1=$ $\square$
f.) $1 \times 3=$

c.) $2 \times 9=$
g.) $4 \times 5=$ $\square$
d.) $3 \times 4=$
h.) $6 \times 3=$

2. Compute half of each number.
a.) $20 \longmapsto$
e.) $70 \Longleftrightarrow$
b.) $30 \longmapsto$
f.) $80 \rightleftharpoons$
c.) $40 \rightleftharpoons$
g.) $90 \Longleftrightarrow$
d.) $60 \longmapsto$
h.) $100 \Longleftrightarrow$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 7: $\qquad$ , $\qquad$
$\qquad$ , _ـ_ $\qquad$ , _ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$
b.) Multiples of 8: $\qquad$ _ $\qquad$ , ——, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , ,
c.) Multiples of 9: $\qquad$
$\qquad$ , _ , , $\qquad$
$\qquad$ , , $\qquad$ , $\qquad$

## PART 2: Application Practice

4. Compute the sums and differences.
a.) $\begin{array}{r}500 \\ -326\end{array}$
b.) $\begin{array}{r}3,058 \\ +\underline{6,959}\end{array}$
c.) $\begin{array}{r}832 \\ -\quad 461 \\ \hline\end{array}$
5. If the pattern in the table below holds for Danita's swim laps, Fill the correct amount of laps Danita swam on Thursday (Th) in the table.

| Danita's Swim Laps During the week |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{M}$ | $\mathbf{T}$ | $\mathbf{W}$ | $\mathbf{T h}$ | $\mathbf{F}$ |
| 14 | 21 | 28 |  | 42 |

5. Jack and Jill went up the hill. Jack only walked halfway. If Jill walked 80 meters to the top of the hill, how many total meters did Jack walk?
(A) 120
(B) 60
(C) 40
(D) 80
6. Correctly spell the following numbers in words.
a) 1 : $\qquad$ e) 5 : $\qquad$ i) 9 :
b) 2 : $\qquad$ f) 6 : $\qquad$ j) 10 :
c) 3 : $\qquad$ g) 7 :
k) 11 :
d) 4 : $\qquad$ h) 8 : $\qquad$ I) 12 :

## PART 3: Reflection and Conceptual Understanding

One way to look at multiplication is repeated addition of a number or as multiples. What is the multiplication equation shown in the number line model. Fill in ALL the boxes.


## PART 1: Numeracy Development

1. Compute products. (Memorize and Multiples)
a.) $2 \times 2=\square$
e.) $4 \times 4=\square$
b.) $8 \times 3=$ $\square$ f.) $5 \times 1=\square$
c.) $3 \times 0=$ $\square$ g.) $9 \times 3=\square$
d.) $2 \times 3=\square$
h.) $3 \times 3=\square$
2. Complete the Fact Family for the 3 numbers.
a.) 1, 9, 8
b.) $8,3,5$
$1+8=9$
$8-5=3$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 7: $\qquad$ , _ , , - , _ , $\qquad$ , __ , __ , _
b.) Multiples of 8 : $\qquad$ , - , , , __ , _ , , $\qquad$ _ c.) Multiples of 9: $\qquad$
$\qquad$ , __ , $\square$ , $\qquad$
$\qquad$
$\qquad$ , $\qquad$ , __ ,

## PART 2: Application Practice

4. The graph shows the number of days all homework was completed in each $3^{\text {rd }}$ grade class.

| Third Grade Homework (HW) Completion |  |  |
| :--- | :--- | :---: |
| Ms. Jolie | Mr. Beau |  |
| Ms. Chic | $\downarrow$ |  |

Each $\downarrow=3$ days of completed homework (HW)
a.) Find the difference between Mr. Beau's class HW completions and Ms. Chic's.
b.) Find the sum of Ms. Jolie's and Ms. Chic's classes' HW completion.
5. Joshua's father placed 4 stacks of bricks in the shed in the backyard. If there are 3 bricks in each stack, what is the total number of bricks in the four stacks?
(A) 12
(B) 7
(C) 17
(D) 1
6. Correctly spell the following numbers in words.
a) 13 :
b) 14 :
c) 15 :
d) 16 :
e) 17 :
f) 18 :
g) 19 :
h) 20 :

## PART 3: Reflection and Conceptual Understanding

What is the multiplication equation shown in the number line model? Fill in ALL the boxes.


## PART 1: Numeracy Development

1. Compute the products of perfect squares.
a.) $2 \times 2=$ $\square$
e.) $6 \times 6=$ $\square$
b.) $3 \times 3=\square$
f.) $7 \times 7=\square$
c.) $4 \times 4=$

g.) $8 \times 8=$ $\square$
d.) $5 \times 5=$ $\square$
h.) $9 \times 9=$
2. Write the Fact Family for the 3 numbers.
a.) $6,11,5$
b.) $13,8,5$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 8: $\qquad$ , _ـ_ $\qquad$ , _ـ, $\qquad$
$\qquad$ $, \ldots, \ldots$,
b.) Multiples of 9: $\qquad$ _ , $\qquad$ , _ , $\qquad$ , $\qquad$ , $\qquad$ ——, $\qquad$
c.) Multiples of 12: $\qquad$
$\qquad$
$\qquad$ , $\qquad$ , $\qquad$
$\qquad$ , $\qquad$
$\qquad$

## PART 2: Application Practice -

4. Calculate the sum, difference and product.
a.) \(\begin{array}{r}609 <br>

+\quad\)| 312 |
| :--- |\end{array}

b.) $\begin{array}{r}809 \\ -\quad \underline{277} \\ \hline\end{array}$
c.) $\begin{array}{r}9 \\ \times \quad 3 \\ \hline\end{array}$
6. Juan placed 12 dominos in the pattern to the right. What is the multiplication problem this array model represents?

(A) $3 \times 4=15$
(C) $4 \times 3=15$
(B) $4 \times 3=12$
(D) $4 \times 4=12$
5. A small book shelf was built with five horizontal shelves that could hold 10 books on each shelf. What is the total number of books that can be placed in the small book shelf?
(A) 50
(B) 5
(C) 15
(D) 25
7. Correctly spell the following numbers in words.
a) 13 :
b) 14 :
c) 15 :
d) 16 :
e) 17 :
f) 18 :
g) 19 :
h) 20 :
$\qquad$

## PART 3: Reflection and Conceptual Understanding

Write the multiplication equation shown on the number line model below.


PART 1: Numeracy Development

1. Write the Fact Family for the 3 numbers.
a.) $15,7,8$
b.) $16,9,7$
$\qquad$
2. Double each number.
a.) $3 \Longrightarrow$
6
e.) $10 \Longleftrightarrow$
b.) $4 \Longrightarrow$ $\qquad$ f.) $8 \rightleftarrows$
c.) $6 \Longrightarrow$
g.) $7 \rightleftarrows$
d.) $2 \rightleftarrows$
h.) $5 \rightleftharpoons$
$\qquad$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 8: $\qquad$ , _ , $\qquad$ , _ , $\qquad$ , $, \ldots, \ldots$
b.) Multiples of 9: $\qquad$
$\qquad$ - $\qquad$ , $\qquad$ , ___ ,
c.) Multiples of 12: $\qquad$
$\qquad$ , , _ , , ——, $\qquad$ , ,

## PART 2: Application Practice

4. Calculate the products.
a.) $\begin{array}{r}2 \\ \times \quad 9 \\ \hline\end{array}$
b.) $\begin{array}{r}4 \\ \times \\ \hline\end{array}$
c.) $\begin{array}{r}9 \\ \times \quad 3 \\ \hline\end{array}$
5. What is the multiplication problem this 'Star' array model represents?
(A) $3 \times 5=15$
(C) $5 \times 3=15$
(B) $5 \times 3=16$
(D) Both $\mathbf{A}$ and $\mathbf{C}$

6. Robert ran 4 laps around the high school track each day for six days. How many laps did Robert run altogether?
(A) 10
(B) 24
(C) 2
(D) 25
7. Correctly spell the following numbers in words.
a) 13 :
b) 14 :
c) 15 :
d) 16 :
e) 17 :
f) 18 :
g) 19 :
h) 20 :
$\qquad$

## PART 3: Reflection and Conceptual Understanding

Write the multiplication equation shown on the number line model on the line provided below.


PART 1: Numeracy Development

1. Compute the products of perfect squares.
a.) $2 \times 2=$

e.) $6 \times 6=\square$
b.) $3 \times 3=$ $\square$ f.) $7 \times 7=\square$
c.) $4 \times 4=$

g.) $8 \times 8=\square$
d.) $5 \times 5=$

h.) $9 \times 9=$

2. Double each number.
a.) $2 \Longleftrightarrow$
e.) $10 \Longleftrightarrow$
b.) $1 \Longleftrightarrow$
f.) $3 \Longleftrightarrow$
c.) $5 \Longleftrightarrow$
g.) $8 \rightleftharpoons$
d.) $4 \Longrightarrow$ $\qquad$
h.) $7 \Longleftrightarrow$
3. Correctly complete the multiple strings below. Multiple strings always begin with zero (0).
a.) Multiples of 8: $\qquad$
$\qquad$ , $\qquad$
b.) Multiples of 9: $\qquad$
$\qquad$ , _ , $\qquad$ —, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$
c.) Multiples of 12: $\qquad$
$\qquad$ , $\qquad$ , , $\qquad$ __ , - $\qquad$

## PART 2: Application Practice

4. Calculate the products.
a.) $\begin{array}{r}0 \\ \times \quad 8 \\ \hline\end{array}$
b.) $\begin{array}{r}7 \\ \times \\ \hline\end{array}$
c.) $\begin{array}{r}4 \\ \times \quad 8 \\ \hline\end{array}$
5. Determine the multiplication problem this 'Dot' array model represents?
(A) $2 \times 4=6$
(C) $5 \times 2=8$
(B) $4 \times 2=9$
(D) $4 \times 2=8$
6. Calculate to see who has the largest number.

- Ann: Double 4, multiply by 3, subtract 1 = $\qquad$
- Van: Half of 14 , add 1, multiply by 3 = $\qquad$
- Gail: Double 5 , multiply by 2 , add $5=$ $\qquad$

7. Correctly spell the following numbers in words.
a) 13 :
b) 14 :
e) 17 :
f) 18 :
c) 15 :
g) 19 :
d) 16 :
h) 20 :

## PART 3: Reflection and Conceptual Understanding

A student drew the multiplication number line model below for $3 \times 3=9$. Is it correct? Explain below.


PART 1: Numeracy Development

1. Compute the missing factors and products.
a.) $3 \times 1=\square$
e.) $5 \times 5=\square$
b.) $3 \times \square=6$
f.) $7 \times \square=14$
c.) $\square \times 2=6$
g.)
 $x 8=16$
d.) $4 \times 3=$ $\square$
h.) $\square$ $x 5=15$
2. Double each number.
a.) $9 \Longleftrightarrow$
e.) $10 \longmapsto$
b.) $11 \Longrightarrow$
f.) $12 \longmapsto$
c.) $15 \Longleftrightarrow$
g.) $30 \Longleftrightarrow$
d.) $20 \Longrightarrow$
h.) $25 \Longleftrightarrow$
$\qquad$
$\qquad$
g.) $30 \Longrightarrow$
d.) $20 \longrightarrow$
$\qquad$
3. Correctly write the number in standard form in the box.
a.) $24=$ twenty-four
d.) $\square$ = seventy-two
g.)

= forty-nine
b.)
 $=$ thirty-eight
e.)

$=$ forty
h.) $\square$ $=$ fifty-three
c.) $\square$ $=$ thirteen
f.)

i.)
$\square=$ eighty-six

## PART 2: Application Practice

4. Determine the multiplication equation from the group model.

(A) $4 \times 4=16$
(C) $4 \times 2=8$
(B) $3 \times 4=12$
(D) $4 \times 5=20$
5. Determine the perfect square

(A) $2 \times 2=4$
(C) $4 \times 4=16$
(B) $3 \times 3=9$
(D) $5 \times 5=20$
6. Figure out which girl's number is the smallest.

- Kim: Double 6, multiply by 1, add 8 = $\qquad$
- Sue: Half of 30, add $4=$ $\qquad$
- Jan: Double 4, multiply by 6, subtract $4=$ $\qquad$

7. Correctly spell the following numbers in words.
a) 30 :
b) 40 :
e) 70 :
f) 80 :
c) 50 :
g) 90 :
d) 60 :
h) 100 :

## PART 3: Reflection and Conceptual Understanding

Look at the multiplication area model in Problem 6 above. Why is $4 \times 4=16$ called a perfect square?

PART 1: Numeracy Development

1. Compute the missing factors and products.
a.) $4 \times 6=\square$
e.) $4 \times 4=$
$\square$
b.) $2 \times \square=8$
f.) $9 x \square=9$
c.) $\square \times 1=6$
g.)
 $x 5=10$
d.) $9 \times 3=$ $\square$
h.)
$\square$ $x 5=15$
2. Double each number.
a.) $3 \longmapsto$
e.) $20 \longmapsto$
b.) $30 \longmapsto$ $\qquad$ f.) $15 \Longleftrightarrow$
c.) $4 \rightleftarrows$
g.) $25 \Longleftrightarrow$
d.) $40 \Longrightarrow$
h.) $50 \Longleftrightarrow$
3. Correctly write the number in standard form in the box.
a.)

d.) $\square$ = forty-two
g.)

$=$ thirty-seven
b.)

e.)

h.)
$\square=$ twenty-six
c.)

f.) $\square$ = ninety-nine
i.)
$\square=$ eighty-three

## PART 2: Application Practice

4. Determine the correct Multiplication equation of the group model.

(A) $3 \times 3=7$
(C) $3 \times 4=12$
(B) $3 \times 3=9$
(D) $3 \times 5=15$
5. Determine the multiplication equation that matches the

(A) $3 \times 3=7$
(C) $3 \times 4=12$
(B) $3 \times 3=9$
(D) $3 \times 5=15$
6. Mr. Roberts separated his class into 4 groups with five students in each group. How many students are there in his class?
(A) 25
(C) 9
(B) 15
(D) 20
7. Correctly spell the following numbers in words.
a) 30 :
b) 40 :
e) 70 :
f) 80 :
c) 50 :
g) 90 :
d) 60 :
h) 100 :

## PART 3: Reflection and Conceptual Understanding

Compare the multiplication models in problems 4 and 6 above and the multiplication number line model below. What multiplication equation do all three models represent? Explain below.


PART 1: Numeracy Development

1. Compute the missing factors and products.
a.) $4 \times \square=12$
e.) $6 \times 6=$
$\square$
b.) $3 x \square=12$
f.) $6 x \square=18$
c.) $\square \times 3=9$
g.)
 $x 7=21$
d.) $7 \times 3=\square$
h.) $\square$ $x 3=21$
2. Double each number.
a.) $6 \rightleftarrows$
e.) $20 \longmapsto$
b.) $60 \Longrightarrow$
f.) $25 \Longleftrightarrow$
c.) $15 \Longleftrightarrow$
g.) $30 \Longrightarrow$
d.) $50 \Longleftrightarrow$
h.) $40 \Longleftrightarrow$
3. Correctly write the number in standard form in the box.
a.) $\square$
d.)
$\square=$ sixty-eight
g.)

$=$ thirty-one
b.)
 $=$ forty-nine
e.) $\square$
h.) $\square$ $=$ fifty-five
c.)

f.)

i.)
$\square=$ ninety-four

## PART 2: Application Practice

4. Determine the correct Multiplication equation of the group model.
(A) $3 \times 3=7$
(C) $3 \times 4=12$
(B) $3 \times 3=9$
(D) $3 \times 5=15$

5. Determine the multiplication equation that matches the array model.
(A) $3 \times 3=7$
(C) $3 \times 4=12$
(B) $3 \times 3=9$
(D) $3 \times 5=15$
6. Priscilla baked some cookies. She arranged the cookie dough in 7 columns and eight rows. How many cookies did she make?
(A) 15
(C) 56
(B) 49
(D) 63
7. Correctly spell the following numbers in words.
a) 30 :
e) 70 :
b) 40 :
f) 80 :
c) 50 :
g) 90 :
d) 60 :
h) 100 :

## PART 3: Reflection and Conceptual Understanding

Compare the multiplication models in problems 4 and 6 above and the multiplication number line model below. What multiplication equation do all three models represent? Explain below.


1. Compute the products.
a.) $4 \times 5=\square$
e.) $8 \times 8=\square$
b.) $3 \times 9=\square$
f.) $9 \times 7=\square$
c.) $8 \times 6=$

g.) $5 \times 8=\square$
d.) $7 \times 8=$

h.) $8 \times 3=$
$\square$
2. Round each number to the nearest 10.
a.) $16 \longmapsto$
20
e.) $3 \longmapsto$
b.) $37 \Longrightarrow$

f.) $25 \Longleftrightarrow$
c.) $8 \Longrightarrow$
g.) $36 \Longleftrightarrow$
d.) $43 \longmapsto$
h.) $35 \Longleftrightarrow$
3. Correctly write the number in word form on the line provided.
a.) $43=$ $\qquad$
d.) $32=$ $\qquad$ g.) $65=$
b.) $\mathbf{2 7}=$ $\qquad$ e.) $59=$ $\qquad$ h.) $84=$
c.) $90=$ $\qquad$ f.) $73=$ $\qquad$ i.) $46=$
$\qquad$
$\qquad$

## PART 2: Application Practice

4. Which model below is NOT a correct model for the following multiplication equation: $4 \times 3=12$ ?

5. Sean and Jose had a running contest. Sean ran 6 days and Jose ran 7 days. Sean ran 8 miles each day and Jose ran 7 miles each day. Who ran the most miles and what was their total?
(A) Jose, 48
(B) Sean, 48
(C) Jose, 49
(D) Sean, 49
6. Silvia had 76 dollars. She had 13 less dollars than her sister, Joan. But, Silvia had 25 more dollars than her brother, Ralph. How much money do Joan and Ralph have combined?
(A) 130
(B) 140
(C) 89
(D) 101

PART 3: Reflection and Conceptual Understanding
In addition, $3+6=9$ and $6+3=9$. The addends can be switched. Being able to switch addends and not change the sum is called the commutative property of addition. In multiplication, the factors can be also be switched and the product is not changed: $5 \times 6=30$ and $6 \times 5=30$. What do you think this property of multiplication is called?

Hint: What is the addition property called?

PART 1: Numeracy Development

1. Compute the products.
a.) $4 \times 9=\square$
e.) $7 \times 7=\square$
b.) $5 \times 9=\square$
f.) $8 \times 7=\square$
c.) $8 \times 9=$

g.) $5 \times 8=\square$
d.) $9 \times 7=$

h.) $8 \times 4=$
$\square$
2. Round each number to the nearest 10.
a.) $35 \longmapsto$
40
e.) $4 \rightleftarrows$
b.) $68 \longrightarrow$

f.) $85 \Longleftrightarrow$
c.) $7 \Longrightarrow$
g.) $92 \longmapsto$
d.) $45 \Longleftrightarrow$
h.) $57 \Longleftrightarrow$
3. Correctly write the number in word form on the line provided.
a.) $54=$ $\qquad$ d.) $39=$ $\qquad$ g.) $25=$
b.) $62=$ $\qquad$
c.) $\mathbf{4 0}=$ $\qquad$
e.) $83=$ $\qquad$ h.) $44=$
f.) $97=$ $\qquad$ i.) $71=$
$\qquad$
$\qquad$

## PART 2: Application Practice

4. Which model below is NOT a correct model for the following multiplication equation: $5 \times 3=15$ ?

(B)

5. Roberta is fast at addition. She can add numbers fast. She added nine 8's in eleven seconds. Kimberly used her multiplication skills to reach the same total that Roberta did in two seconds. What was their number?
(A) 72
(B) 63
(C) 54
(D) 64
6. Silvia's mother said to her, "I will give you 4 dollars for every dollar you save." Silvia saved 8 dollars. How much money did Silvia's mother give her?
(A) 12
(B) 24
(C) 32
(D) 36

PART 3: Reflection and Conceptual Understanding
The multiplication group model is interesting. Two different pictures represent the same product. What are the two multiplication equations represented by these group models? Write the multiplication equations under each model on the lines provided.


PART 1: Numeracy Development

1. Compute the products.
a.) $2 \times 9=\square$
e.) $6 \times 4=$ $\square$
b.) $5 \times 6=$ $\square$
f.) $8 \times 3=$ $\square$
c.) $9 \times 9=$

g.) $1 \times 8=$ $\square$
d.) $9 \times 6=$

h.) $9 \times 0=$ $\square$
2. Round each number to the nearest 10 .
a.) $51 \Longrightarrow$
e.) $8 \longmapsto$
b.) $46 \Longrightarrow$ $\qquad$ f.) $95 \Longleftrightarrow$
c.) $2 \rightleftharpoons$
g.) $94 \Longrightarrow$
d.) $25 \Longleftrightarrow$
h.) $38 \Longleftrightarrow$
3. Correctly write the number in word form on the line provided.
a.) $42=$ $\qquad$ d.) $99=$ $\qquad$ g.) $24=$
b.) $95=$ $\qquad$
c.) $30=$ $\qquad$
e.) $83=$ $\qquad$ h.) $57=$
f.) $\mathbf{6 8}=$
$\qquad$ i.) $76=$
$\qquad$
$\qquad$

## PART 2: Application Practice

4. Which model below is NOT a correct model for the following multiplication equation: $2 \times 3=6$ ?

5. Calculate the number from these math operations.
'Double 4, multiply by 3, subtract 4, half that number.' What number was calculated?
(A) 4
(B) 20
(C) 10
(D) 24
6. After mowing lawns all summer, Donny saved 76 dollars. Donny's older brother washed cars for the summer and saved 105 dollars. How much more money did his older brother save than Donny?
(A) 39
(B) 181
(C) 29
(D) 171

## PART 3: Reflection and Conceptual Understanding

The multiplication array model is also interesting. Two different pictures represent the same product. What are the two multiplication equations represented by these array models? Write the multiplication equations beside each model on the lines provided.

1. Compute the products.
a.) $9 \times 5=\square$
e.) $6 \times \square=24$
b.) $5 \times \square=30$
f.) $8 \times 9=\square$
c.) $\square \times 8=40$
g.) $4 \times \square=32$
d.) $7 \times 6=$
$\square$
h.) $\square \times 2=18$
2. Correctly write the number in word form on the line provided.
a.) $\mathbf{1 3 5}=$ one hundred thirty-five
b.) $\mathbf{2 7 6}=$ $\qquad$
c.) $540=$ $\qquad$

- PART 2: Application Practice -

2. Round each number to the nearest 100.
a.) $206 \Longleftrightarrow 200$
e.) $676 \longmapsto$
b.) $253 \longmapsto$
f.) $381 \longmapsto$ $\qquad$
c.) $31 \longmapsto$
g.) $930 \longmapsto$
d.) $66 \Longrightarrow$
h.) $465 \longmapsto$ $\qquad$


PART 3: Reflection and Conceptual Understanding
On the number line below, show using 'jumps' what the addition equation $5+8=13$ means. The first arrow must begin at zero (0).


1. Label: triangle, square, rectangle, trapezoid.
a.)

c.)

b.)

d.)

$\qquad$
$\qquad$
2. Round each number to the nearest $\mathbf{1 0 0}$.
a.) $152 \longmapsto$
e.) $850 \longmapsto$
b.) $333 \Longrightarrow$
f.) $849 \Longleftrightarrow$
c.) $76 \longmapsto$
g.) $970 \Longleftrightarrow$
d.) $34 \longmapsto$
h.) $529 \Longleftrightarrow$
$\qquad$
3. Correctly write the number in word form on the line provided.
a.) $105=$ $\qquad$
b.) $740=$ $\qquad$
c.) $987=$ $\qquad$

## PART 2: Application Practice

4. Shade the array model below for the multiplication equation: $4 \times 6=24$. (There are more squares than needed)

5. Mary is 3 times older than Henry. John is half of Mary's age. If Henry is 6 years old, how old is John?
(A) 9
(B) 24
(C) 36
(D) 51
6. Matthew, James and Van all save baseball cards. Van has 39 cards and James has 67 cards. Matthew has 50 fewer cards than James. How many more cards are owned by James than Van?
(A) 117
(B) 116
(C) 89
(D) 28

- PART 3: Reflection and Conceptual Understanding

On the number line below, show using 'jumps' what the subtraction equation 14-5=9 means. The first arrow must begin at zero (0).


1. Label: triangle, square, rectangle, trapezoid.
a.) $\square$
c.) $\square$
b.)

d.)

$\qquad$

- 
- 

2. Round each number to the nearest $\mathbf{1 0 0}$.
a.) $89 \Longleftrightarrow$
e.) $647 \longmapsto$
b.) $645 \longmapsto$
f.) $41 \rightleftarrows$
c.) $206 \Longrightarrow$
g.) $953 \Longleftrightarrow$
d.) $450 \Longrightarrow$
h.) $829 \Longrightarrow$
3. Correctly write the number in word form on the line provided.
a.) $708=$ $\qquad$
b.) $843=$ $\qquad$
c.) $\mathbf{2 6 0}=$ $\qquad$

## PART 2: Application Practice

4. Place small dots $(\bullet)$ inside the squares to show group models for the multiplication equation: $5 \times 4=20$.
a. 5 Groups of 4 'dots' each:

b. 4 Groups of 5 'dots' each:

c. What is the total number of dots in either
a. or b. above?
5. Jose ran 7 kilometers, and Mara ran 11 kilometers. Jose multiplied his amount by 3 and Mara doubled her amount. Whose total is highest, and what is their total?
(A) Jose, 10
(B) Mara, 14
(C) Jose, 21
(D) Mara, 22
6. On a vacation, the Smith family drove 549 miles over a week. The Jones family flew a total of 785 miles on their vacation. How much farther did the Jones family fly than the Smith family drove?
(A) 136
(B) 236
(C) 336
(D) 246

PART 3: Reflection and Conceptual Understanding
On the number line below, show using 'jumps' what the multiplication equation $2 \times 5=10$ means.
The first arrow must begin at zero (0).


PART 1: Numeracy Development

1. Label: parallelogram, rhombus, pentagon and
trapezoid.
a.) $\square$

c.)

b.)

d.)


- 

3. Correctly write the number in word form on the line provided.
a.) $\mathbf{1 , 3 4 6}=$ one thousand three hundred forty-six
b.) $2,503=$ $\qquad$
c.) $5,730=$ $\qquad$
4. Round each number to the nearest 1,000 .
a.) $3,909 \Rightarrow 4,000$
e.) $875 \Rightarrow$
b.) $6,500 \Rightarrow$
f.) $8,450 \Rightarrow$
c.) $4,068 \Rightarrow$
g.) $400 \Rightarrow$
d.) $2,450 \Rightarrow$
h.) $5,450 \Rightarrow$
c.) $5,730=$

## PART 2: Application Practice

4. Place small dots ( $\odot$ ) inside the circles to show group models for the multiplication equation: $6 \times 3=18$.
a. 6 Groups of 3 'dots' each:

b. 3 Groups of 6 'dots' each:

C. What is the total number of dots in either a. or b. above?
5. Phillip walks to school every day. It takes him 5 minutes walking to school in the morning, and 5 minutes coming home in the afternoon. How many total minutes does Phillip to walk to school for 4 days?
(A) 10
(B) 20
(C) 30
(D) 40
6. Every Friday, Elizabeth's $3^{\text {rd }}$ grade teacher had a math operation challenge for the class. Can you figure out the number from her class challenge below?
'Halve 20, Halve again, multiply by 6, add 7, subtract 12.'
(A) 14
(B) 21
(C) 25
(D) 36

## PART 3: Reflection and Conceptual Understanding

On the number line below, show using 'jumps' what the multiplication equation $3 \times 6=18$ means. The first arrow must begin at zero (0).


PART 1: Numeracy Development

1. Label: parallelogram, rhombus, pentagon and trapezoid.
a.)

c.)

b.)

d.)

2. Round each number to the nearest $\mathbf{1 , 0 0 0}$.
a.) $6,290 \Rightarrow$
e.) $206 \Rightarrow$
b.) $7,609 \Rightarrow$
f.) $1,568 \Rightarrow$
c.) $9,490 \Rightarrow$
g.) $730 \Rightarrow$
d.) $9,507 \Rightarrow$
h.) $8,197 \Rightarrow$
3. Correctly write the number in word form on the line provided.
a.) $5,300=$ $\qquad$
b.) $8,008=$ $\qquad$
c.) $1,940=$ $\qquad$

## PART 2: Application Practice

4. Place small squares ( $\square$ ) inside the circles to show group models for the multiplication equation: $4 \times 6=24$.
a. 6 Groups of 4 'squares' each:

b. 4 Groups of 6 'squares' each:

c. What is the total number of squares in either a. or b. above?
5. Kyle went to the store to purchase some items. He paid 31 cents for some gum and 57 cents for a candy bar. About how much money to the nearest 10 cents did he spend?
(A) 30
(B) 78
(C) 90
(D) 100
6. Layla and Shawna separated some beads into equal stacks. They had 4 beads in each stack and nine stacks altogether. What was the total number of beads the girls had?
(A) 14
(B) 21
(C) 25
(D) 36

PART 3: Reflection and Conceptual Understanding
On the number line below, show using 'jumps' what the addition equation $7+8=15$ means. The first arrow must begin at zero (0).


PART 1: Numeracy Development

1. Label: trapezoid, octagon, pentagon and hexagon.
a.)

c.)

b.)

d.)
2. Round each number to the nearest 1,000 .
a.) $3,706 \Rightarrow$
e.) $6,200 \Rightarrow$
b.) $2,501 \Rightarrow$
f.) $1,733 \Rightarrow$
c.) $849 \Rightarrow$
g.) $100 \Rightarrow$
d.) $9,999 \Rightarrow$
h.) $9,309 \Rightarrow$
3. Correctly write the number in word form on the line provided.
a.) $1,249=$ $\qquad$
b.) $7,035=$ $\qquad$
c.) $2,890=$ $\qquad$

## PART 2: Application Practice

4. William's father asked him to place an equal number of baseballs in each box. How many baseballs did William place in each box?

(A) 2
(B) 3
(C) 4
(D) 48

PART 3: Reflection and Conceptual Understanding
On the number line below, show using 'jumps' what the subtraction equation 12-4 = 8 means. The first arrow must begin at zero (0).


## PART 1: Numeracy Development

1. Polygon labeling: hexagon, octagon, pentagon, square, rhombus, rectangle, triangle, trapezoid.
a.)

c.)

e.)

g.)

b.)

d.)

f.)

h.)

2. Round each addend, subtrahend or minuend to the nearest 10. Estimate by adding or subtracting.
a.) $\begin{aligned} 85 & \Longrightarrow-90 \\ -32 & \Longrightarrow-\frac{30}{60}\end{aligned}$
b.)
$+\begin{aligned} & 37 ص_{4} \overbrace{}^{4}\end{aligned}+$

c.) | 74 |  |  |
| ---: | :--- | :---: |
| $-\underline{46}$ | $ص^{-}$ |  |

d.) | 24 |  |  |
| ---: | :--- | :---: |
| + |  |  |$+$

- PART 2: Application Practice

3. Janna picked some flowers, and she wants to place an equal number of flowers in each vase. How many flowers will Janna place in each vase?

(A) 2
(B) 3
(C) 4
(D) 48
4. Quindon received his weekly allowance for completing his assigned responsibilities. He decided to go to the store and purchase two items. He bought two small candy bars for a total of 85 cents and a popsicle for 49 cents. About how much more money did he pay for the candy bars than the popsicle?
(A) 10
(B) 20
(C) 30
(D) 40
5. The boys cross country team ran seven miles each day on Monday, Wednesday and Friday. They ran 9 miles on Tuesday and again on Thursday. How many total miles did the team run on Monday, Wednesday and Friday?
(A) 14
(B) 21
(C) 25
(D) 36

## - PART 3: Reflection and Conceptual Understanding

Write the multiplication equation under each of the 3 models shown below on the line provided.


## - PART 1: Numeracy Development -

1. Polygon labeling: parallelogram, hexagon, pentagon, quadrilateral, octagon, rhombus, triangle, trapezoid.
a.)

c.)

e.)

g.)

b.)

d.)

f.)

h.)

2. Round each addend, subtrahend or minuend to the nearest 10. Estimate by adding or subtracting.
a.) $\begin{aligned} 63 & \not 口 \\ -9 & { }^{6}\end{aligned}$
b.) $+\begin{aligned} & 71 \Longrightarrow \\ & 25\end{aligned}+$

c.) | 84 |  |  |
| ---: | :--- | :---: |
| $-\underline{43}$ | ${ }^{\circ}$ |  |

d.) | 25 | ${ }^{25}+$ |  |
| ---: | :--- | :---: |

## — PART 2: Application Practice -

3. How many flowers can be placed equally into each flower pot?

(A) 2
(B) 3
(C) 4
(D) 48
4. The school librarian decided to gift some of the school's older books to students. She gave 75 books to the $3^{\text {rd }}$ grade teachers, 52 books to the $4^{\text {th }}$ grade teachers and 97 books to the $5^{\text {th }}$ grade. About how many books did the librarian gift the $3^{\text {rd }}$ and $5^{\text {th }}$ grade teachers?
(A) 150
(B) 120
(C) 180
(D) 170
5. The soldiers lined up in formation on Monday morning at sunrise. There were 8 rows of soldiers with 9 soldiers in each row. How many soldiers were in formation Monday morning?
(A) 1
(B) 17
(C) 72
(D) 63

## - PART 3: Reflection and Conceptual Understanding

Write the multiplication equation under each of the 3 models shown below on the line provided.


## PART 1: Numeracy Development

1. Write the correct time on the line beside each clock.
a.)

c.)

e.)

g.)

i.)

b.)

d.)

f.)

h.)

j.)

2. Round each addend, subtrahend or minuend to the nearest 10. Estimate by adding or subtracting.
a.) $\begin{aligned} 74 & \Longrightarrow \\ -\underline{15} & \Longrightarrow\end{aligned}$
b.) $\begin{aligned} 63 & \Longrightarrow \\ 35 & \Longrightarrow\end{aligned}$
c.) $\begin{array}{r}74 \\ -\quad 12 \\ \hline\end{array}$
d.) $\begin{array}{r}57 \\ +\quad 45 \\ \hline\end{array}$

## PART 2: Application Practice

3. Relating Multiplication and Division. Complete the Division equations.

4. Jose ran for school president at Blanco Vista Elementary. He received 82 votes from the $3^{\text {rd }}$ graders, 46 votes from the $4^{\text {th }}$ graders and 104 votes from $5^{\text {th }}$ grade students. About how many more votes did Jose receive from the $3^{\text {rd }}$ grade students than from the $4^{\text {th }}$ graders?
(A) 10
(B) 20
(C) 30
(D) 40
5. Jo drew a dot pattern with 8 columns and 3 rows. Gary drew a different pattern with stars using 4 columns and 6 rows. What is the difference between Jo's total number of dots and Gary's total number of stars?
(A) 24
(B) 6
(C) 48
(D) 0

## PART 3: Reflection and Conceptual Understanding

Write an addition word problem. Use the following addition equation: $6+7=$ ?. Make the word problem simple - a person saves money...start with $\$ 6 \ldots$ he or she is given $\$ 7$ more... what is the total amount of money? Solve your addition word equation.

## PART 1: Numeracy Development

1. Write the correct time on the line beside each clock.
a.)

b.)

c.)

e.)

g.)

i.)

d.)

f.)

h.)

j.)

2. Round each addend, subtrahend or minuend to the nearest 100. Estimate by adding or subtracting.
a.) $\begin{aligned} 536 & \Longrightarrow-\begin{array}{l}500 \\ \underline{150}\end{array} \overbrace{}^{200}\end{aligned}$
b.) $\begin{aligned} 243 & \Longrightarrow \\ 357 & \Longrightarrow\end{aligned}$
c.) $\begin{array}{r}838 \\ -\quad 450 \\ \hline\end{array}$
d.) $\begin{array}{r}376 \\ +\underline{507}\end{array}$

## PART 2: Application Practice

3. Complete the Division equations.

4. Wally and his friend kept a yearly record of the golf balls they found in the creek between the $3^{\text {rd }}$ and $4^{\text {th }}$ fairways at the Edgebrook Golf Course. They found 145 golf balls in 2016 and 450 in 2017. About how many golf balls did they find in both 2016 and 2017?
(A) 300
(B) 400
(C) 500
(D) 600
5. The John F. Kennedy High School Marching Band's percussion section was arranged in nine columns with nine members in each column. How many percussion musicians are there in the school's band?
(A) 72
(B) 17
(C) 81
(D) 1

PART 3: Reflection and Conceptual Understanding
Write and solve an addition word problem. Use the following addition equation: $12+15=$ ? Make the word problem simple. Give a person 12 of something. Then, they get 15 more. What is the total?

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FALL STAAR WALK - Learning Opportunity 50

## PART 1: Numeracy Development

1. Write the correct time on the line beside each clock.
a.)

c.)

e.)

g.)

i.)

b.)

d.)

f.)

h.)

j.)

2. Round each addend, subtrahend or minuend to the nearest 100. Estimate by adding or subtracting.
a.) $\begin{aligned} 850 & \Longrightarrow \\ -\underline{379} & \Longrightarrow\end{aligned}$
b.) $\begin{array}{r}569 \\ +\quad 231 \\ \hline\end{array}$
c.) $\begin{array}{r}979 \\ -\underline{230} \\ \hline\end{array}$
d.) $\begin{array}{r}299 \\ +\quad \underline{649}\end{array}$

## —— PART 2: Application Practice

3. Complete the Division equations.
a.) $6 \times 2=12 \mathscr{} \frac{12 \div 6=2}{12 \div 2=6}$
b.) $3 \times 7=21$
c.) $8 \times 2=16$ $\qquad$
4. Patricia has a silver button collection. She places the buttons equally in 3 stacks with 8 buttons in each stack. Which equation below may be used to determine the total number of buttons that are in Patricia's collection?
(A) $3 \times 6=?$
(B) $8 \div 3=$ ?
(C) $8 \times 3=?$
(D) $8-3=$ ?
5. John Jay Elementary School has a student enrollment of 539 students. Martin Luther King Public School has 850 students enrolled. What is the difference in the student enrollment between these two schools?
(A) 311
(B) 321
(C) 1,389
(D) 400
D

## PART 1: Numeracy Development

1. Write the correct time on the line beside each clock.
a.)

c.)

e.)

g.)

i.)

b.)

d.)

f.)

h.)

j.)

2. Round each addend, subtrahend or minuend to the nearest 100. Estimate by adding or subtracting.
a.) $\begin{aligned} 728 & \Longrightarrow \\ -\underline{265} & \Longrightarrow\end{aligned}$
b.) $+\begin{array}{r}109 \\ 690 \\ \hline\end{array}$
c.) $\begin{array}{r}639 \\ -\quad 350 \\ \hline\end{array}$
d.) $\begin{array}{r}447 \\ +\quad 551 \\ \hline\end{array}$

## PART 2: Application Practice

3. Complete the Division equations.
a.) $4 \times 3=12$
b.) $3 \times 5=15$
c.) $9 \times 2=18$

4. On Tuesday, Wednesday and Thursday, Jean rode her bike to school and back home each day. The two-way trip totaled 7 miles. Which equation below may be used to determine the distance Jean rode her bike on these three days?
(A) $3 \times 7=$ ?
(B) $21 \div 3=$ ?
(C) $3+7=$ ?
(D) $7-3=?$
5. In 2016, Brookings High School had 567 girls and 492 boys enrolled in grades 9 through 12. What is Brookings High School's total student enrollment for 2016?
(A) 100
(B) 75
(C) 1,059
(D) 959

## PART 3: Reflection and Conceptual Understanding

Write and solve a subtraction word problem. Use the following subtraction equation: (15-8=?). Hint: Start your word problem with 15 items. Remove 8 of them. What is the number of items that are left?
—— PART 1: Numeracy Development

1. Write the correct time on the line beside each clock.
a.)

c.)

e.)

g.)

i.)

b.)

d.)

f.)

h.)

j.)

2. Round each addend, subtrahend or minuend to the nearest 1,000. Estimate by adding or subtracting.
a.) $\begin{aligned} & 3,728 \Longrightarrow-\begin{array}{r}4,000 \\ 1,204\end{array} \Longrightarrow^{1,000} \\ & 3,000\end{aligned}$
b.) $+\begin{array}{r}3,090 \\ \underline{5,990}\end{array}$
c.) $\begin{array}{r}4,500 \\ -\quad \underline{2,430} \\ \hline\end{array}$

## PART 2: Application Practice

3. Complete the Fact Family for the three numbers.

4. Bill placed his toy soldiers into a rectangular pattern that had 3 rows and 4 columns. What equation below is the most useful to solve for the total number of toy soldiers?
(A) $3 \times 4=$ ?
(B) $12 \div 3=$ ?
(C) $5 \times 4=$ ?
(D) 12-3 =?
5. Label each figure. Circle each quadrilateral and Place a check $\sqrt{ }$ mark inside the polygon if it's also a parallelogram.
a.) $\square$
b.)

c.)

d.)

e.)

f.)

g.)

h.)


## PART 3: Reflection and Conceptual Understanding

Write and solve a subtraction word problem. Use the following subtraction equation: 35-17=?

## PART 1: Numeracy Development

1. Write the shaded portion of each fraction on the line to the right of each fraction.
a.)

c.)

e.)

g.)

i.)

b.)

d.)

f.)

h.)

j.)

2. Round each addend, subtrahend or minuend to the nearest 1,000 . Estimate by adding or subtracting.
a.) $\begin{aligned} 8,099 & \Longrightarrow \\ \underline{4,570} & \Longrightarrow\end{aligned}$
b.) $\begin{array}{r}6,391 \\ +\underline{2,725}\end{array}$
c.) $\begin{array}{r}6,467 \\ -\quad 950 \\ \hline\end{array}$
—— PART 2: Application Practice
3. Complete the Fact Family for the

4. What is the equation of this multiplication area model?

(A) $2+7=$ ?
(B) $14 \div 2=$ ?
(C) $7 \times 2=$ ?
(D) $7-2=?$
5. Label each figure. Circle each quadrilateral and Place a check $\sqrt{ }$ mark inside the polygon if it's also a parallelogram.
a.)

b.)

c.) $\square$
d.)

e.)

f.)

g.)

h.)


PART 3: Reflection and Conceptual Understanding
Write and solve a subtraction word problem. Use the following subtraction equation: 94-23=?

## PART 1: Numeracy Development

1. Write the shaded portion of each fraction on the line to the right of each fraction.
a.)


e.)


i.)

b.)

d.)

f.)

h.)

j.)

2. Round each addend, subtrahend or minuend to the nearest 1,000. Estimate by adding or subtracting.
a.) $\begin{aligned} 6,332 & \Longrightarrow \\ \underline{2,509} & \Longrightarrow\end{aligned}$
b.) $\begin{array}{r}7,291 \\ +\underline{3,849}\end{array}$
c.) $\begin{array}{r}9,790 \\ -\quad \underline{3,657} \\ \hline\end{array}$

## PART 2: Application Practice

3. Complete the Fact Family for the three numbers.
a.) $8,7,56$
$\square$
b.) $48,8,6$
$\square$
$\square$
4. J'marcus placed soda bottles in 5 groups with 6 bottles in each group. What equation describes the total number of soda bottles that J'marcus owns?
(A) $5 \times 6=$ ?
(B) $30 \div 6=$ ?
(C) $5 \times 5=$ ?
(D) $30-6=$ ?
5. Label each figure. Circle each quadrilateral and Place a check $\boldsymbol{\checkmark}$ mark inside the polygon if it's also a parallelogram.
a.)

b.)


d.)

e.)

f.)

g.)

h.)


## PART 3: Reflection and Conceptual Understanding

Write and solve a multiplication word problem. Use the following multiplication equation: $5 \times 6=$ ?

## 000

## PART 1: Numeracy Development

1. Write the shaded portion of each fraction on the line to the right of each fraction.
a.)

c.)

e.)

g.)

i.)

b.)

d.)

f.)

h.)

j.)

2. Expand each number to show each digit's value.
a.) $23,948=\underline{20,000}+3,000+900+40+8$
b.) $52,531=$ $\qquad$
c.) $89,027=$ $\qquad$

PART 2: Application Practice
3. Complete the Fact Family for the three numbers.
a.) $5,9,45\left[\begin{array}{l}\square \\ \square \\ \square \\ \square\end{array}\right]$
4. Which equation correctly computes the area of the polygon?

(A) $2 \times 7=14$
(B) $7 \times 3=21$
(C) $3 \times 7=21$
(D) Both B and C
5. The Dot Plot shows the number of times Mr. Jones' students met their reading goal. Each Dot represents one student. How many students are in Mr. Jones' class?
(A) 17
(C) 19
(B) 18
(D) 20

## PART 3: Reflection and Conceptual Understanding

Write and solve a multiplication word problem. Use the following multiplication equation: $9 \times 5=$ ?

## PART 1: Numeracy Development

1. Compare using $<,>$, or $=$.
a.)

b.)

2. Determine the amount of money in a.) and b.) below.
a.)

b.)


(A) 52 cents
(C) 66 cents
(G) $\$ 28.00$
(J) $\$ 18.00$
(B) 67 cents
(D) 62 cents
(H) $\$ 28.79$
(k) $\$ 17.00$
3. Expand each number to show each digit's value.
a.) $65,948=$ $\qquad$
b.) $40,506=$ $\qquad$
c.) $\mathbf{7 4 , 7 6 0}=$ $\qquad$

## PART 2: Application Practice

4. Determine the division equation that allows an equal number of flowers to be placed in each pot.

(A) $12 \div 3=5$
(C) $12 \div 3=4$
(B) $15 \div 3=5$
(D) $12 \div 2=6$
5. Which equation correctly shows the area of the figure?

(A) $1+5=6$
(B) $1 \times 5=5$
(C) $0 \times 5=5$
(D) $5 \times 2=10$
6. The Dot Plot shows the number of times 14 intermediate teachers at Oak Crest Elementary gave their students homework last week. How many teachers gave their students homework four or more times last week? Each dot represents one teacher.
(A) 13
(C) 6
(B) 14
(D) 9


PART 3: Reflection and Conceptual Understanding
Write and solve a multiplication word problem. Use the following multiplication equation: $9 \times 5=$ ?

## PART 1: Numeracy Development

1. Compare using <, >, or =.
a.)

b.)

2. Determine the amount of money in a.) and b.) below.
a.)

b.)


(A) 78 cents
(C) 91 cents
(G) $\$ 22.00$
(J) $\$ 36.00$
(B) 86 cents
(D) 86 cents
(H) $\$ 4.00$
(1) $\$ 26.00$
3. Expand each number to show each digit's value.
a.) $14,008=$
b.) $49,045=$
$\qquad$
) $00,703=$
c.) $60,703=$

## PART 2: Application Practice

4. Determine the division equation that allows an equal number of flowers to be placed in each pot?

(A) $12 \div 3=5$
(C) $12 \div 3=4$
(B) $15 \div 3=5$
(D) $12 \div 2=6$
5. What is the multiplication equation for this group model?
3333
(A) $5 \times 3=10$
(B) $5 \times 3=20$
(C) $5 \times 2=10$
(D) $5 \times 3=15$
6. The Line Plot shows how often 10 teachers went to the Tucson Public Library during the fall semester. If each dot represents one teacher, how many teachers visited the library more than two times?
(A) 10
(C) 5
(B) 7
(D) 4


## PART 3: Reflection and Conceptual Understanding

The pattern below represents a 10 star pattern that Julie drew in art class. What are the 2 division equations that correctly describe Julie's drawing? Hint: Write the multiplication equation first, if you are unsure.


## 000

## PART 1: Numeracy Development

1. Compare using $<,>$, or $=$.
a.)

b.)

2. Determine the amount of money in a.) and b.) below.
a.)


(A) $\$ 0.87$
(C) $\$ 1.02$
(G) $\$ 53.00$
(J) $\$ 63.00$
(B) $\$ 1.11$
(D) $\$ 1.02$
b.)


(H) $\$ 62.00$
(®) $\$ 67.00$
3. Decompose the expanded form to show place value and write the number in standard form.

| a.) $30,000+5,000+80+1$ |
| :--- |
| b.) $10,000+5,000+800+9$ |$=$| $\mathbf{T}$ TH | Th | $\mathbf{H}$ | $\mathbf{T}$ | $\mathbf{O}$ |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{3}$ | $\mathbf{5}$ | $\mathbf{0}$ | $\mathbf{8}$ | $\mathbf{1}$ |
|  |  |  |  |  |$=$| Standard Form |
| :---: | :---: |
| 35,081 |

## PART 2: Application Practice

4. What is the division equation that places an equal number of baseballs in each of the four boxes?

(A) $12 \div 4=3$
(C) $12 \div 3=3$
(B) $12 \div 3=5$
(D) $12 \div 6=2$
5. What is the multiplication equation for this group model?

(A) $9 \times 5=45$
(B) $4 \times 9=36$
(C) $9 \times 4=27$
(D) $4 \times 8=36$
6. Jorge and Ricardo collect Hip Hop songs on their MP-3 players. Jorge has 341 songs and Ricardo has 651. About how many more songs does Ricardo have than Jorge?
(A) 300
(B) 400
(C) 500
(D) 1,000
7. LeBron scored 2,255 points last season. KD scored a total of 1,796 points. How many points did they score combined?
(A)
4,041
(B) 4,951
(C) 4,051
(D) 3,051

## PART 3: Reflection and Conceptual Understanding

The pattern below consists of 18 hexagons. Write $\mathbf{2}$ multiplication and $\mathbf{2}$ division equations that describe this pattern on the lines provided.

$$
6
$$

## PART 1: Numeracy Development

1. Compute the Products.
a.) $\begin{array}{r}10 \\ \times \quad 3 \\ \hline 30\end{array}$
c.)
$\begin{array}{r}10 \\ \times \quad 4 \\ \hline\end{array}$
b.) $\begin{array}{r}20 \\ \times \quad 2 \\ \hline\end{array}$
d.)
$\begin{array}{r}30 \\ \times \quad 3 \\ \hline\end{array}$
2. Determine the amount of money below.

(A) $\$ 65.58$
(B) $\$ 65.68$
(C) $\$ 75.68$
(D) $\$ 85.65$
3. Decompose the expanded form to show place value and write the number in standard form.

| a.) $70,000+70+7$ | T TH | Th | H | T | 0 | $=$ | Standard Form |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
| b.) $90,000+5,000+400$ |  |  |  |  |  |  |  |

## PART 2: Application Practice

4. Find the quotients of the division equations below.
a.) $12 \div 4=\square$
e.)
$\square$
$4 \longdiv { 1 2 }$
b.) $12 \div 3=\square$
f.)

c.) $18 \div 2=\square$
g.)

d.) $8 \div 2=\square$
h.)


## - PART 3: Reflection and Conceptual Understanding

The pattern below consists of 14 squares. Write 2 multiplication and 2 division equations that describe this pattern on the lines provided.

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |$\quad$| $x$ |
| :---: |

## PART 1: Numeracy Development

1. Compute the Products.
a.) $\begin{array}{r}20 \\ \times \quad 2 \\ \hline\end{array}$
c.)
$\begin{array}{r}10 \\ \times \quad 9 \\ \hline\end{array}$
b.) $\begin{array}{r}30 \\ \times \quad 3 \\ \hline\end{array}$
d.)
$\begin{array}{r}20 \\ \times \quad 4 \\ \hline\end{array}$
2. Determine the amount of money below.

(A) $\$ 44.67$
(B) $\$ 44.76$
(C) $\$ 44.57$
(D) $\$ 42.67$
3. Decompose the expanded form to show place value and write the number in standard form.


## PART 2: Application Practice

4. Find the quotients of the division equations below.
a.) $16 \div 4=\square$
e.)

$4 \longdiv { 1 6 }$
b.) $15 \div 3=\square$
f.)
$3 \longdiv { \square }$
c.) $12 \div 2=\square$
g.)

d.) $6 \div 3=\square$
h.)

5. What is the multiplication equation for this group model?
20
(A) $4 \times 20=80$
(B) $4 \times 10=40$
(C) $40 \div 4=10$
(D) $40-4=37$
6. Matthew placed 10 books on each shelf of a 5-shelf book case. How many books are in the book shelf?
(A) 5
(B) 15
(C) 50
(D) 25
7. A young girl placed her 6 ribbons into 3 columns with an equal number of ribbons in each column. How many ribbons are in each column?
(A) 3
(B) 2
(C) 9
(D) 4

## PART 3: Reflection and Conceptual Understanding

The pattern below is a group model of multiplication that has 80 items. Write the multiplication and division equations that describe this pattern on the lines provided.


## PART 1: Numeracy Development

1. Compute the Products.
a.) $\begin{array}{r}40 \\ \times \quad 4 \\ \hline\end{array}$
c.)
$\begin{array}{r}20 \\ \times \quad 7 \\ \hline\end{array}$
b.) $\begin{array}{r}50 \\ \times \quad 3 \\ \hline\end{array}$
d.)
$\begin{array}{r}30 \\ \times \quad 5 \\ \hline\end{array}$
2. Determine the amount of money below.

(A) $\$ 65.87$
(B) $\$ 75.79$
(C) $\$ 84.92$
(D) $\$ 85.92$
3. Decompose the expanded form to show place value and write the number in standard form.
a.) $30,000+9$
b.) $60,000+300+7$

$=$| T TH | Th | H | T | O |
| :--- | :---: | :---: | :---: | :---: |
| $=$ |  |  |  |  |
|  |  |  |  |  |$=$


$=$| Standard Form |
| :--- |
| $=$ |

## PART 2: Application Practice

4. Find the quotients of the division equations below.
a.) $30 \div 6=\square$
e.)
$7 \longdiv { \square }$
b.) $24 \div 8=\square$
f.)

c.) $45 \div 5=\square$
g.)

d.) $27 \div 9=\square$
h.)

$9 \longdiv { 7 2 }$
$4 \longdiv { 2 4 }$
5. What is the multiplication equation for this group model?

(A) $5 \times 20=$ ?
(B) $3 \times 50=$ ?
(C) $30 \times 5=$ ?
(D) $30 \div 5=$ ?
6. Dae walked a total of 15 kilometers on Sunday, Tuesday and Saturday. If he walked the same distance on each of the three days, how many kilometers did he walk each day?
(A) 5
(B) 15
(C) 50
(D) 25
7. If Lucy saves 20 dollars each month, how much money will she save in 3 months?
(A) $\$ 7$
(B) $\$ 18$
(C) $\$ 23$
(D) $\$ 60$

PART 3: Reflection and Conceptual Understanding -
Mathematics Vocabulary: Label the numbers below in the addition and subtraction equations with the correct term. Use the following words: difference, sum, addend, subtrahend, and minuend.

$$
\begin{aligned}
& 4 \Longleftarrow \\
& \frac{6}{10} \Longleftarrow
\end{aligned}
$$



## 000

## PART 1: Numeracy Development

1. Compute the Products.
a.) 30
$\times 4$
c.)
$\begin{array}{r}40 \\ \times \quad 7 \\ \hline\end{array}$
b.) $\begin{array}{r}50 \\ \times \quad 2 \\ \hline\end{array}$
d.)
$\begin{array}{r}40 \\ \times \quad 5 \\ \hline\end{array}$
2. Write the name of the 3D object on the line provided: rectangular prism, triangular prism, cube.
a.)

b.)
b

c.)

)

$\qquad$
3. Write each number in word form.
a.) $41,706=$ forty-one thousand seven hundred six
b.) $50,569=$ $\qquad$
c.) $13,046=$ $\qquad$
—— PART 2: Application Practice
4. Find the quotients of the division equations below.
a.) $42 \div 7=\square$
e.)

b.) $36 \div 4=\square$
f.)

$9 \longdiv { 2 7 }$
c.) $56 \div 7=\square$
g.)
$5 \longdiv { \square 0 }$
d.) $64 \div 8=\square$
h.)

$8 \longdiv { 7 2 }$
5. In problem 2 a above, determine the number of faces, vertices and edges on the three-dimensional (3D) object.

Faces = $\qquad$ Vertices $=$ $\qquad$ Edges = $\qquad$
6. Luz and Yessica went to the corner store and purchased 2 items: gum for \$ 0.75 and candy bars for $\$ 1.20$. They paid with a 5 dollar bill. How much change did they receive?
(A) $\$ 4.05$
(B) $\$ 4.55$
(C) $\$ 3.05$
(D) $\$ 3.55$
7. Joseph tracked the Yankees wins each week. The Yankees usually win 30 games each week. How many games will the team win in 3 weeks?
(A) 27
(B) 90
(C) 33
(D) 60

PART 3: Reflection and Conceptual Understanding
Vocabulary in mathematics is important. Label the numbers below in the multiplication and division equations with the correct term. Use the following words: quotient, factor, divisor, dividend and product.

$$
\begin{aligned}
3 & \Longleftarrow \\
\times \frac{8}{24} & \Longleftarrow
\end{aligned}
$$



## 000

## PART 1: Numeracy Development

1. Compute the Products.
a.) $\begin{array}{r}50 \\ \times \quad 7 \\ \hline\end{array}$
c.) $\begin{array}{r}20 \\ \times \quad 8 \\ \hline\end{array}$
b.) $\begin{array}{r}40 \\ \times \quad 6 \\ \hline\end{array}$
d.)
$\begin{array}{r}50 \\ \times \quad 8 \\ \hline\end{array}$
2. Write the name of the 3D object on the line provided: triangular pyramid, triangular prism, square pyramid.
a.)

b.)

3. Write each number in word form.
a.) $76,040=$ $\qquad$
b.) $90,009=$ $\qquad$
c.) $19,307=$ $\qquad$

## PART 2: Application Practice

4. Find the quotients of the division equations below.
a.) $81 \div 9=\square$
e.)
$9 \longdiv { \square }$
b.) $48 \div 6=\square$
f.)
$9 \longdiv { \square }$
c.) $54 \div 9=\square$
g.)

d.) $36 \div 6=\square$
h.)

$7 \longdiv { 4 2 }$
5. In problem 2 a above, determine the number of faces, vertices and edges on the three-dimensional (3D) object.

Faces = $\qquad$ Vertices $=$ $\qquad$ Edges = $\qquad$
6. Ramona bought 7 items for $\$ 5.09$ at the grocery store. She gave the cashier a ten dollar bill. How much change did Ramona receive from the cashier?
(A) $\$ 4.91$
(B) $\$ 5.91$
(C) $\$ 4.81$
(D) $\$ 15.09$
7. Roland and Chen separated seventy-two blocks into 8 equal groups. How many blocks were in each group?
(A) 3
(B) 2
(C) 9
(D) 4

## PART 3: Reflection and Conceptual Understanding

A division problem may be written in either of the two ways shown below. Are there any differences in the meaning of these two division equations? Explain your thinking on the lines provided.

$$
\begin{equation*}
8 \div 2 = \boxed { 4 } \quad 2 \longdiv { 4 } \tag{4}
\end{equation*}
$$

## 000

## —— PART 1: Numeracy Development

1. Compute the Products.
c.)

b.)
$\begin{array}{r}70 \\ \times \quad 8 \\ \hline\end{array}$
d.)
$\begin{array}{r}90 \\ \times \quad 9 \\ \hline\end{array}$
d.
a.) $\begin{array}{r}60 \\ \times \quad 8 \\ \hline\end{array}$
 triangular prism, rectangular prism, triangular pyramid.
a.)

b.)


$\qquad$
2. Write the name of the 3D object on the line provided:
3. Write each number in word form.
a.) $25,349=$ $\qquad$
b.) $81,002=$ $\qquad$
c.) $15,508=$

## PART 2: Application Practice

4. Jim started walking home from school at the time shown on Clock A. He arrived home at the time shown on Clock B. How many minutes did it take him to walk home?


Clock A
(A) 5 minutes
(B) 10 minutes


Clock B
(C) 15 minutes
(D) 20 minutes
5. In problem $2 a$ above, determine the number of faces, vertices and edges on the three-dimensional (3D) object.

Faces = $\qquad$ Vertices $=$ $\qquad$ Edges $=$ $\qquad$
6. Ricardo spent $\$ 8.32$ at the store. Mateo spent $\$ 4.87$. How much money did the boys spend altogether?
(A) $\$ 4.56$
(B) $\$ 3.45$
(C) $\$ 13.19$
(D) $\$ 12.19$
7. Compute the area of the parallelogram below.
(A) 7
(C) 10
(B) 3
(D) 14

## - PART 3: Reflection and Conceptual Understanding

June was having difficulty understanding the difference between a triangular pyramid and a triangular prism. Her best friend, July, told her, "I look at the point of the object. If the three dimensional figure comes to a single point, then it is a pyramid. If not, it is a prism." Is this correct? Explain below. You may use the figures above in problem 2 to help you, if needed.

## PART 1: Numeracy Development

1. Write the name of the 3D object on the line provided: rectangular prism, square pyramid, pentagonal prism, cube, hexagonal prism.

b.)



2. Write each number in word form.
a.) $14,301=$ $\qquad$
b.) $40,670=$ $\qquad$
c.) $22,022=$ $\qquad$

## PART 2: Application Practice

3. Xin started his homework at the time shown on Clock A. He finished at the time shown on Clock B. How many minutes did Xin work on his homework?


Clock A
$\begin{array}{ll}\text { (A) } 15 \text { minutes } & \text { (C) } 25 \text { minutes } \\ \text { (B) } 20 \text { minutes } & \text { (D) } 30 \text { minutes }\end{array}$


Clock B
4. How many more edges than faces are on a hexagonal prism?
(A) 10
(B) 12
(C) 14
(D) 16
5. Olivia and Ava combined their money. They had two quarters, 3 dimes, one nickel, and 6 pennies. How much money do the girls have?
(A) $\$ 0.91$
(B) $\$ 0.76$
(C) $\$ 0.87$
(D) $\$ 0.81$
6. Compute the area of the parallelogram below.
(A) 20
(C) 10
(B) 21
(D) 4

- PART 3: Reflection and Conceptual Understanding -

Multiplication and division are opposite operations - just as addition and subtraction are to one another. Look at the multiplication and division equations below. How is the missing factor in multiplication related to a missing quotient in division? Explain your thinking on the lines provided.


## 000

## PART 1: Numeracy Development

1. Write the name of the 3D object on the line provided: hexagonal prism, square pyramid, pentagonal prism, octagonal prism, triangular prism.
a.)
b.)
c.)



2. Write the missing mixed numbers in the empty boxes that correctly complete the number lines below.


## PART 2: Application Practice

3. How much elapsed time has occurred between the times on Clock $A$ and Clock $B$ shown below?


Clock A


Clock B
(A) 40 minutes
(C) 55 minutes
(B) 45 minutes
(D) 50 minutes
4. How many more edges than faces are on a triangular prism?
(A) 2
(B) 3
(C) 4
(D) 5
5. Calculate the perimeter of the figure shown below?

(A) 12
(C) 8
(B) 6
(D) 16
6. Compute the area of the rectangle below.
(A) 12
(C) 18
(B) 6
(D) 27

## PART 3: Reflection and Conceptual Understanding

A student said with confidence, "My older brother told me that perimeter is the distance ALL the way around the OUTSIDE of a polygon, and the area is the amount of space INSIDE the polygon."

When your teacher asks you to do so, raise this paper or a book to your chest and show your teacher that you understand what perimeter and area mean. Your teacher will tell the class, "Show me with your hand, the perimeter of your paper or book." Then, your teacher will tell you, "Now, show me using your hand the area of your paper or book." Were you correct?

## 000

## PART 1: Numeracy Development

1. Write the name of the 3D object on the line provided: hexagonal prism, triangular pyramid, pentagonal prism, octagonal prism, rectangular prism.

c.)

d.)


2. Write the missing fractions and mixed numbers in the empty boxes that complete the number lines.


## PART 2: Application Practice

3. How much elapsed time has occurred between the times on Clock A and Clock B shown below?


Clock A
(A) 25 minutes
(C) 45 minutes
(B) 35 minutes
(D) 55 minutes
4. How many more vertices does a pentagonal prism have than a rectangular prism?
(A) 2
(B) 3
(C) 4
(D) 5
5. Calculate the perimeter of the figure shown below.

(A) 9
(C) 18
(B) 20
(D) 16
6. Compute the area of the rectangle below.

(A) 7
(C) 14
(B) 12
(D) 24

## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.

2. Shade the correct number of circle pieces that represent the fraction or mixed number from the letters - A; B; C; and D on the number lines in problem 1 above.
a.) (A)

b.)
(B)

c.)


d.) (D)


## PART 2: Application Practice

3. Determine the value of the missing horizontal dimension (X) of the L-Shaped Hexagon below.


13
4. Mateo has 5 dimes, a quarter and 3 nickels in his pocket. A toy car costs a total of \$ 1.05, tax included. Does Mateo have enough money to buy the toy car? Prove your answer.
5. Calculate the perimeter of the figure shown below.

|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
|  |  |  |  |  |

(A) 8
(C) 20
(B) 15
(D) 16
6. The area of the rectangle is 15 . What is the value of " $Y$ "?
5
(A) 2
(C) 4
(B) 3
(D) 5

## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.
a.)

b.)



## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.

2. Shade the correct number of rectangle pieces that represent the fraction or mixed number from the letters - A; B; C; and D on the number lines in problem 1 above.
a.) (A)

b.) (B)

c.) (C)

d.) (D)


## PART 2: Application Practice

3. Determine the value of the missing horizontal dimension (X) of the L-Shaped Hexagon below.

(A) 2
(C) 35
(B) 12
(D) 13
4. At $4: 35$, Willy started playing with his dog. At $5: 05$, he stopped. How many minutes did Willy play with his dog?
(A) 60 minutes (B) 30 minutes (C) 45 minutes (D) 35 minutes
5. Calculate the perimeter of the figure shown below.

(A) 8
(C) 20
(B) 15
(D) 16
6. The area of the square is 9 . What is the value of " $T$ "?


## ——

Write and solve a division word problem. Use the following division equation: $16 \div 4=4$. Make the problem simple - choose 16 objects of some kind. Separate the objects into 4 equal groups. How many objects in each group?

## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.
a.)

b.) $\underset{0}{4}$

c.)

c.) 4

2. Shade the correct number of rectangular pieces that represent the fraction or mixed number from the letters - A; B; C; and D on the number lines in problem 1 above.
a.) (A)

b.) (B)

c.) (C)


| $\square$ |
| :--- |
| $\square$ |

d.)


## PART 2: Application Practice

3. Determine the value of the missing horizontal dimension ( $\mathbf{X}$ ) and the vertical dimension $(\mathbf{Y})$ of the $L$ Shaped Hexagon below.

(A) $X=13 ; Y=5$
(C) $X=15 ; Y=5$
(B) $X=5 ; Y=13$
(D) $X=13 ; Y=6$
4. At 6:15, Hans started his homework. At 6:50, he finished. How many minutes did Hans spend on his homework?
(A) 60 minutes (B) 30 minutes (C) 45 minutes (D) 35 minutes
5. Calculate the perimeter of the figure shown below.

(A) 8
(C) 20
(B) 15
(D) 16
6. The area of the square is 25 . What is the value of " $R$ "?


## - PART 3: Reflection and Conceptual Understanding -

Write and solve a division word problem. Use the following division equation: $18 \div 3=6$.

## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.
a.)

b.)


2. Shade the correct number of rectangular pieces that represent the fraction or mixed number from the letters - A; B; C; and D on the number lines in problem 1 above.
a.) (A)

b.) (B)


c.) (C)

d.) (D)

$\square$

## PART 2: Application Practice

3. Determine the value of the missing horizontal dimension (X) and the vertical dimension $(\mathbf{Y})$ of the $L$ Shaped Hexagon below.

(A) $X=5 ; Y=4$
(C) $X=4 ; Y=6$
(B) $X=6 ; Y=4$
(D) $X=7 ; Y=5$
4. What is the elapsed time between $10: 30$ and $11: 15 ?$
(A) 60 minutes (B) 30 minutes (C) 45 minutes (D) 35 minutes
5. Calculate the perimeter of the figure shown below.

|  |  |  |  |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

(A) 17
(C) 19
(B) 18
(D) 20
6. Compute the area of the figure shown below.

(A) 11
(C) 13
(B) 12
(D) 14

## PART 3: Reflection and Conceptual Understanding

The total area of L-Shaped hexagons may be calculated by separating the L-Shape into 2 rectangles, computing each rectangle's area, and adding those areas. Compute the L-Shaped hexagon's total area.


## - PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.

2. Shade the correct number of rectangular pieces that represent the fraction or mixed number from the letters - A; B; C; and $\mathbf{D}$ on the number lines in problem 1 above.
a.) (A)

b.) (B)

c.) (C)

d.) (D)


## PART 2: Application Practice

3. Determine the value of the missing horizontal dimension ( $\mathbf{X}$ ) and the vertical dimension (Y) of the LShaped Hexagon below.


11
(A) $X=2 ; Y=3$
(C) $X=3 ; Y=2$
(B) $X=3 ; Y=3$
(D) $X=2 ; Y=4$
4. Claire saved \$ 10.45 in May and \$ 9.09 in June. How much money did Claire save in May and June?
(A) $\$ 1.44$
(B) $\$ 19.34$
(C) $\$ 1.36$
(D) $\$ 19.54$
5. What is the perimeter of the figure below?

(A) 22
(C) 18
(B) 20
(D) 24
6. What is the area of the figure below?

(A) 24
(C) 23
(B) 21
(D) 22

PART 3: Reflection and Conceptual Understanding
The total area of L-Shaped hexagons may be calculated by separating the L-Shape into 2 rectangles, computing each rectangle's area, and adding those areas. Compute the L-Shaped hexagon's total area.


## PART 1: Numeracy Development

1. Write the missing whole numbers in the empty boxes on the number lines below.
a.)

2. Compare the fraction bars' shaded areas and compare those fractions using $<,>$, or $=$.
a.)


b.)



## PART 2: Application Practice

3. Determine the value of the missing horizontal dimension ( $\mathbf{X}$ ) and the vertical dimension ( $\mathbf{Y}$ ) of the $L$ Shaped Hexagon below.

(A) $X=2 ; Y=7$
(C) $X=3 ; Y=7$
(B) $X=7 ; Y=2$
(D) $X=7 ; Y=3$
4. Rachel made 268 toothpick figures and Sara had 409. What is the difference in the girls' toothpick figure totals?
(A) 141
(B) 677
(C) 241
(D) 667
5. What is the perimeter of the figure below?

(A) 24
(C) 26
(B) 25
(D) 27
6. What is the area of the figure below?

(A) 14
(C) 18
(B) 16
(D) 20

PART 3: Reflection and Conceptual Understanding
The total area of L-Shaped hexagons may be calculated by separating the L-Shape into 2 rectangles, computing each rectangle's area, and adding those areas. Compute the L-Shaped hexagon's total area.


## —— PART 1: Numeracy Development

1. Write the missing whole numbers in the empty boxes on the number lines below.
a.)

2. Compare the fraction bars' shaded areas and compare the fractions using $<$, $>$, or $=$.
a.)

$\frac{2}{3} \bigcirc \frac{4}{6}$
b.)


## PART 2: Application Practice

3. Determine the value of the missing horizontal dimension ( $\mathbf{X}$ ) and the vertical dimension ( $\mathbf{Y}$ ) of the LShaped Hexagon below.

14


5
4. Robert placed 10 books each on 9 shelves of a book case. How many books were placed on all 9 shelves?
(A) 1
(B) 90
(C) 28
(D) 19
5. What is the perimeter of the figure below? (Hint: you must first solve for the missing side, $\mathbf{T}$.

(A) 28
(C) 30
(B) 29
(D) 31

8
(A) $X=6 ; Y=9$
(C) $X=5 ; Y=6$
(B) $X=9 ; Y=6$
(D) $X=8 ; Y=6$

PART 3: Reflection and Conceptual Understanding
The total area of L-Shaped hexagons may be calculated by separating the L-Shape into 2 rectangles, computing each rectangle's area, and adding those areas. Compute the L-Shaped hexagon's total area.

## PART 1: Numeracy Development

1. Write the missing whole numbers in the empty boxes on the number lines below.
a.)

2. Compare the fraction bars' shaded areas and compare the fractions using $<,>$, or $=$.
a.)

$\frac{2}{4} \bigcirc \frac{3}{6}$
b.)


## PART 2: Application Practice

3. Which pair of fraction bars in problem 2 above represent equivalent fractions?
(A) 2 a
(C) Not 2 a or 2 b
(B) 2 b
(D) Both 2 a and 2 b
4. Jo's horse has a mass of 405 kilograms. Her pony's mass is 136 kilograms less than the horse's. How much does Jo's pony weigh?
(A) 259
(C) 541
(B) 269
(D) 551
5. Answer the questions concerning the clock below.
 What is the time if it is:
a.) 15 minutes earlier? $\qquad$
b.) 15 minutes later? $\qquad$
6. What is the perimeter of the figure below?


## PART 3: Reflection and Conceptual Understanding

The total area of L-Shaped hexagons may be calculated by separating the L-Shape into 2 rectangles, computing each rectangle's area, and adding those areas. Compute the L-Shaped hexagon's total area.

## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.
a.)

b.)

c.)

2. Expand the numbers to show each digit's value using Base 10 place value format.
a.) $\mathbf{2 4 7}=(2 \times 100)+(4 \times 10)+(7 \times 1)$
b.) $608=$

## PART 2: Application Practice

3. Calculate the area of the rectangle. Each $\square=1$ square unit.
(A) 10
(C) 8
(B) 12
(D) 6

4. Dulce purchased 32 pieces of candy. She placed the candy equally in four bags. How many pieces of candy were in each bag?
(A) 4
(C) 28
(B) 8
(D) 36
5. Answer the questions concerning the clock below.
 What is the time if it is:
a.) 20 minutes earlier? $\qquad$
b.) 20 minutes later? $\qquad$
6. What is the area of the figure below? ( $\left.A^{\text {rectangle }}=L \times W\right)$ 10


## PART 3: Reflection and Conceptual Understanding

The total area of L-Shaped hexagons may be calculated by separating the L-Shape into 2 rectangles, computing each rectangle's area, and adding those areas. Compute the L-Shaped hexagon's total area.


What is the total area of the L-Shaped hexagon?

## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.
a.)

14

b.)


18

2. Expand the numbers to show each digit's value using Base 10 place value format.
a.) $\mathbf{2 , 0 8 7}=(2 \times 1,000)+($
b.) $5,690=$

## PART 2: Application Practice

3. Compute the area of the hexagon. Each $\square=1$ square unit.
(A) 9
(C) 16
(B) 19
(D) 23

4. Victor volunteered for the Salvation Army. He worked four Saturdays in a row for 9 hours each day. How many total hours did Victor work?
(A) 4
(C) 28
(B) 8
(D) 36
5. Answer the questions concerning the clock below.


What is the time if it is:
a.) 30 minutes earlier? $\qquad$
b.) 45 minutes later? $\qquad$
6. What is the area of the figure below? ( $\mathrm{A}^{\text {rectangle }}=\mathrm{L} \times \mathrm{W}$ )

(A) 36
(C) 48
(B) 54
(D) 44

## PART 3: Reflection and Conceptual Understanding

The perimeter of a parallelogram can also be found using the multiplication group model.


FALL STAAR WALK - Learning Opportunity 79

## PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.
a.)

b.)


4

2. How many pairs of parallel sides are on each polygon below.

Note: A "pair" means two (2).
a.)

b.)

c.)

d.)


## 2 pair - parallel sides

## PART 2: Application Practice -

3. Calculate the area of the polygon. Each $\square=1$ square unit.
(A) 8
(C) 24
(B) 16
(D) 4

4. Fifteen boys are practicing soccer. They left the field to go home in groups of five. How many groups of boys left the field?
(A) 15
(C) 18
(B) 12
(D) 3
5. Which model represents $4 \times 5=20$ ?

(C)

(B) $5+5+5+5$
(D) All are models of $4 \times 5$
6. What is the area of the figure below? (Arectangle $=L \times W$ )

(A) 25
(C) 35
(B) 30
(D) 40

## PART 3: Reflection and Conceptual Understanding

Fill in the boxes below to compute the perimeter of a parallelogram.


## —— PART 1: Numeracy Development

1. Write the fractions and mixed numbers in the empty boxes on the three number lines below.
a.)

b.)

2. On each polygon below, how many vertices have perpendicular sides intersecting?
a.)

b.)

c.)

d.)


4 Vertices

## —— PART 2: Application Practice

3. Place the 'minute hand' on the clocks below so the time is 9:30 and 6:15.
a.)

b.)

4. Shade correctly to show equivalent fractions.
a.)

b.)

5. Ms. Morgan, a $3^{\text {rd }}$ grade teacher, asked Vicki to find the quotient of 12 and 3, and she asked Lynn to calculate the product of 4 and 8 . Compute both girls' answers.
(A) $4 ; 4$
(C) $15 ; 32$
(B) $4 ; 32$
(D) $12 ; 9$
6. What is the area of the figure below? ( rectangle $_{\text {r }}^{\text {L }} \times \mathrm{W}$ )


PART 3: Reflection and Conceptual Understanding
Fill in the boxes below to compute the perimeter of a parallelogram.


## Grade 3

## ANSWER KEY

## 80 Daily

## Learning Opportunities

## Mathematics

## Fall Semester



## Learning Opportunity 01

## Part 1 - Numeracy Development

1. a.) 5
b.) 5
c.) 5
d.) 8
2. a.) Given
b.) 3 Tens 8 Ones -38
c.) 1 Ten 1 One - 11
3. a.) $4,7,9,12$
b.) $20,21,23,24,26,28$

TEKS

## Part 2 - Application Practice

4. B- 42 (i.e. 42 is the only 2 digit number that is both even and greater than 31 .
5. $\underline{\mathrm{D}}-\underline{29}$ (i.e. $18+11$ is equal to 29 )
6. $\underline{24}$ (i.e. 2 stacks of $10(20)+4$ singles $=24)($ Number 2 a is a visual representation of this problem.) (Emphasize 'standard form') 3.2A
7. $\underline{22}$ (i.e. $12+10=22$ toys)

## Part 3 - Reflection and Conceptual Understanding

Possible Student Answers:
3.1G; 3.2.A; 3.2D
a.) The tens digit in Sally's number (26) is a 2 and John's number (14) is a 1 , so 20 is bigger than 10 .
b.) Sally's number is further to the right on a whole number line than John's, so it is bigger.
c.) I made 26 circles for Sally's number. I made 14 circles for John's number. Sally has more circles than John.

## Learning Opportunity 02

## Part 1 - Numeracy Development

1. a.) 6
b.) 4
c.) 8
c.) 4 Tens 0 Ones -40
d.) 5
2. a.) 3 Tens 5 Ones -35
b.) 5 Tens 9 Ones -59
b.) $56,59,60,62,63,65,67$
3. a.) $35,38,40,43$

## Part 2 - Application Practice

4. ㅁ - $\underline{73}$ (Note: Students should solve the addition problem vertically.) (Emphasize the vocabulary word, sum.)
5. $\underline{B}-\underline{8}$ (i.e. $5+4-1=8$ )
6. 53 (i.e. 5 Tens and 3 Ones = $\underline{53}$ ) (Emphasize the vocabulary word, standard form.)
7. $\underline{\mathbf{4}}$ (i.e. $14+10=\underline{\mathbf{2}}$ blocks)

## Part 3-Reflection and Conceptual Understanding

Possible Student Answers:
3.1G; 3.2.A; 3.2D
a.) No. Sam is incorrect. The tens digit in Sam's number is a 3 which equals 30 . Bill's ten digit is a 2 or 20 . Sam's number is larger. $30>20$.
b.) No. Sam is wrong. He is comparing the ones digit. He should compare the tens digit. Sam's tens digit is a 3 and Bill's ten digit is a 2 .

## Learning Opportunity 03

## Part 1 - Numeracy Development

TEKS

1. a.) 7
b.) 8
c.) 6
d.) 6
2. a.) Given
b.) 1
c.) 3
d.) 5
h.) 9 (Note: Emphasize, addend)
d.) even
3. a.) Given
f.) 4
g.) 6

## Part 2 - Application Practice

5. A- $\underline{29}$ (Note: Students should solve the addition problem vertically.) (Emphasize the vocabulary word, sum.)
6. $\underline{\text { A }}$ 표 (i.e. $12+5=17 ; 17-6=\underline{\mathbf{1 1}}$ ) - Addition and subtraction problems should be solved vertically.
7. $\underline{37}$ (i.e. 2 tens 4 ones +1 ten 3 ones $=3$ tens 7 ones $=\underline{\mathbf{3 7}}$ ) or (convert to standard: $24+13=\underline{\mathbf{3 7}}$ )
8. $\underline{23}$ (i.e. $13+10=\underline{23}$ city blocks)

## Part 3-Reflection and Conceptual Understanding

## Possible Student Answers:

3.1G; 3.2.A; 3.2D
a.) Yessica has 2 groups of ten $=20+7=27$ cubes. Samantha has 22 cubes. Yessica has more cubes. Tens are the same, but 7 ones $>2$ ones.
b.) Yessica has 27 cubes. Samantha has 22 cubes. $27-22=5$. Yessica has 5 more cubes that Samantha.

## Learning Opportunity 04

## Part 1 - Numeracy Development

1. a.) 8
2. a.) Given
e.) 4
3. a.) Given
4. a.) $165,166,169,172,175,176$

Part 2 - Application Practice
5. a.) $($ Circus $=25$; Movie=10; Dance=30)
b.) 35 (i.e. $25+10$ )
c.) 20 (i.e. $30-10$ )
d.) 15 (i.e. 25-10)
3.8A; 3.8B

## Part 3 - Reflection and Conceptual Understanding

## Possible Student Answer(s):

2.7A; 3.1G; 3.41

If the 'ones digit' in a number can't be equally paired into two groups, the number is odd. If it can be paired equally, it is an even number.
Note: Students can use both hands. Pair fingers equally from both hands to determine if a number is even or odd. Example: if the ones digit is a ' 3 ,' then raise one finger on each hand and pair. Then, there is another raised finger that is NOT paired. Hence, 3 is an odd number.

## Learning Opportunity 05

## Part 1 - Numeracy Development

1. a.) 11
b.) 11
c.) 17
d.) 18 TEKS
2. a.) 7
b.) 5
c.) 2
d.) 9 .
e.) 8
f.) 4
g.) 1
h.) 6
b.) even
c.) even
d.) odd
3. a.) $100,101,104,107,110,111$
b.) $201,204,205,207,208,210,212$
2.2F; 3.1F

## Part 2 - Application Practice

5. a.) (Ann =25; Val = 10; Jan =20)
b.) 10 (i.e. 20-10)
c.) 5 (i.e. $25-20$ )
d.) 35 (i.e. $25+10$ )
3.8A; 3.8B

## Part 3 - Reflection and Conceptual Understanding

Possible Student Answer(s):
2.7A; 3.1G; 3.41

Yes. The ones digit determines if a number is even or odd. Therefore, 3 is odd, then any number with a 3 in the ones digit is odd, too.
Note: Students can use both hands. Pair fingers equally from both hands to determine if a number is even or odd. Example: if the ones digit is a ' 4 ,' then raise one finger on each hand and pair. Then, two fingers are raised on each hand and paired. Hence, 4 is an even number.

## Learning Opportunity 06

## Part 1 - Numeracy Development

1. a.) 12
b.) 14
c.) 16
d.) 13

TEKS
2. a.) 5
b.) 1
c.) 6
d.) 4
e.) 7
f.) 2
g.) 8
h.) 3
3. a.) even
b.) odd
c.) even
d.) even
4. a.) $2,8,14,20,22$
b.) $26,32,34,38,40,44,48$

## Part 2 - Application Practice

5. a.) $(\mathrm{Jim}=50 ; \mathrm{Ed}=10 ;$ Bill=40; Sam=20)
b.) 30 (i.e. 50-20)
c.) 20 (i.e. $40-20$ )
d.) 30 (i.e. $10+20$ )
3.8A; 3.8B

## Part 3-Reflection and Conceptual Understanding

## Possible Student Answer(s):

2.7A; 3.1G; 3.41

Yes. It is correct. The ones digit in the number ALWAYS determines if the number is even or odd no matter how large the number.
Note: Students can use both hands. Pair fingers equally from both hands to determine if a number is even or odd. Example: if the ones digit is a ' 5 ,' then raise one finger on each hand and pair. Finally, there is one raised finger that is NOT paired. Hence, 5 is an odd number.

## Learning Opportunity 07

## Part 1 - Numeracy Development

1. a.) 2
b.) 15
c.) 4
d.) 12
2. a.) 5 Tens 4 Ones -54
b.) 7 Tens 7 Ones -77 c.) 8 Tens 0 One -80
b.) $11,13,17,19,23,27$
2.2F; 3.1F; 3.4E

## Part 2 - Application Practice

4. a.) $($ Fred $=50 ; \mathrm{Al}=25$; Jesus $=45$ )
b.) 75 (i.e. $50+25$ )
c.) 5 (i.e. $50-45$ )
d.) 20 (i.e. 45-20)
3.8A; 3.8B

## Part 3 - Reflection and Conceptual Understanding

## Possible Student Answer:

3.1F; 3.1G; 3.5A

Note: Students must understand developmentally that addition and subtraction can be represented on a number line. In this case, the addition problem is a missing addend, and the subtraction problem is the difference.
The Fact Family for the number line condition shown is the following four equations: $2+8=10 ; 8+2=10 ; 10-8=2 ; \quad 10-2=8$.

## Learning Opportunity 08

## Part 1 - Numeracy Development

1. a.) 5
b.) 9
c.) 8
b.) 6 Tens 5 Ones - 65
c.) 7 Tens 9 One - 79
d.) 12
2. a.) 6 Tens 0 Ones -60
b.) $23,25,29,31,35,39,41$
3. a.) $46,52,54,60,66,68$
2.2F; 3.1F

TEKS

Part 2-Application Practice
4. $\underline{D}-\underline{100}$
5. A-11 (i.e. $14+5-8=\underline{11}$ )
6. $\underline{\mathbf{7}}$ (i.e. $5+{ }^{\prime} \underline{7}$ ' $=12$ or $12-5=\underline{\mathbf{7}}$ )
2.4A; 3.4A
7. $\underline{\mathbf{6 0}}$ (i.e. $\mathbf{2 8}+32=\underline{\mathbf{6 0}}$ )

## Part 3-Reflection and Conceptual Understanding

Possible Student Answer:
3.1F; 3.1G; 3.5A

There are three ( 3 ) spaces between 8 and 10 - each number marked by a 'dot' on the number line. So, $7+{ }^{\prime} \underline{\mathbf{3}}$ ' $=10$. AND, $10-\mathbf{~} \underline{\mathbf{3}}$ ' $=7$.
The Fact Family for the number line condition shown is the following four equations: $3+7=10 ; 7+3=10 ; 10-7=3 ; \quad 10-3=7$.

## Learning Opportunity 09

## Part 1 - Numeracy Development

1. a.) 3
b.) 11
c.) 2
d.) 11
2. a.) 1
b.) 7
c.) 2
d.) 3
g.) 6
h.) 5
e.) 4
f.) 8
d.) even
3. a.) $84,86,92,98,102,104,106$
b.) $49,55,57,61,63,67,71$

## Part 2 - Application Practice

5. a.) $($ Movie $=40$; Play $=30$; Circus $=50$ )
b.) 10 (i.e. 50-40)
c.) 20 (i.e. $50-30$ )
d.) 120 (i.e. $40+30+50$ )
3.8A; 3.8B

## Part 3 - Reflection and Conceptual Understanding

Possible Student Answer(s):
2.4A; 2.7A; 3.1F; 3.1G; 3.41

48 is an even number because the ones digit is an ' 8 '. An ' 8 ' is paired equally (divisible by 2) into two 4 's. Hence, 48 is an even number.
Note: When students are able to expand a number to indicate a digit's value, it affords proof that any number is either even or odd. For Example, $48=40+8$. Hence, 40 is divisible by 2: $(20+20)$ and 8 is also divisible by $2:(4+4)$. Consequently, 48 is an even number.

## Learning Opportunity 10

## Part 1 - Numeracy Development

1. a.) 12
b.) 9
c.) 6
d.) 7
2. a.) 1 Hundred 3 Tens 5 Ones -135
b.) 2 Hundreds 4 Tens 2 Ones -242
b.) $97,103,105,109,111,115,117,119$
2.2F; 3.1F

## Part 2 - Application Practice

4. a.) $(Y u=45$; Will=75; Quon=45; Luz=30)
b.) $Y u$ and Quon
c.) Yu and Quon
d.) Will and Luz
3.4A; 3.8A; 3.8B

## Part 3 - Reflection and Conceptual Understanding

Student Answer:
2.4A; 3.1G; 3.5A

Number Line Boxes answers are ' $\underline{6}$ ' and ' $\underline{5}$ '. Consequently, ' $\underline{6}$ ' + ' $\underline{\prime}$ ' $=11$
Note: Elementary students do not always transfer concepts to larger number operations. For example, the same addition model of $6+5=11$ on a number line is also true for $23+45=68$. Of course, the number line model is much larger in scale for larger numbers that are summed.

## Learning Opportunity 11

## Part 1 - Numeracy Development

1. a.) 2
b.) 4
c.) 6
d.) 7

TEKS
2. a.) 2 Hundreds 0 Tens 4 Ones - 204
b.) 1 Hundreds 6 Tens 0 Ones -160
b.) $5,35,45,65,75,95,105,115$

## Part 2 - Application Practice

4. $\underline{C}-\underline{13}$ (i.e. $45-32=\underline{13}$ ); (Require students to rewrite the problem vertically) (Emphasize the word 'difference'.)
5. $\underline{B}-\underline{52}$ (i.e. $97-45=\underline{52}$ ); (Require students to rewrite the problem vertically) (Emphasize the phrase 'more than'.)
6. $\underline{\mathbf{6}}$ (i.e. $19-9=10$; then, $10-4=\underline{\mathbf{6}}$ )
7. $\underline{76}$ (i.e. $34+42=\underline{76}$ )
3.2A; 3.4A

## Part 3 - Reflection and Conceptual Understanding

Student Answer:
2.4A; 3.1F; 3.1G; 3.5A

Number Line Boxes answers are ' $\underline{4}$ ' and ' $\underline{6}$ '. Consequently, ' $\underline{4}$ ' $+\underline{6}$ ' = ' $\underline{10}$ ' See Note in Solutions for Learning Opportunity 10.

## Learning Opportunity 12

## Part 1 - Numeracy Development

1. a.) 3
b.) 7
c.) 5
d.) 2
2. a.) 2 Hundreds 3 Tens 3 Ones - 233
b.) 1 Hundreds 0 Tens 7 Ones - 107
3. a.) $80,90,120,140,150,180,190,200$
b.) $37,47,67,77,97,107,117$

TEKS

## Part 2 - Application Practice

4. A- $\underline{77}$ (i.e. $99-22=\underline{77}$ ); (Require students to rewrite the problem vertically.) (Emphasize the word 'difference'.)
5. C- $\mathbf{1 4 2}$ (i.e. $97+45=\underline{142}$ ); (Require students to rewrite the problem vertically.) (Emphasize phrase 'more than'.)
6. $33, \underline{35}, \underline{37}$
2.7A; 3.2A; 3.2D
7. $\underline{59}$ (i.e. $49+10=\underline{59}$ ) (Require students to evaluate the reasonableness of their solution to ensure it is correct.)

## Part 3 - Reflection and Conceptual Understanding

## Student Answer:



## Learning Opportunity 13

## Part 1 - Numeracy Development

1. a.) 2
b.) 3
c.) 6
d.) 9
2. 1 Thousand 3 Hundreds 5 Tens 4 Ones $-1,354$
3. a.) $0,5,20,30,35,50,55$
b.) $53,63,83,93,113,133$

TEKS

## Part 2 - Application Practice

4. $\mathbf{B}-\underline{89}$; $\underline{\mathbf{2 7}}$ (i.e. $58+31=\underline{89}$ and $58-31=\underline{\mathbf{2 7}}$ ); (Require students to rewrite the problem vertically - not horizontally)
5. A- $\underline{\mathbf{7}}$ (i.e. $19-12=\underline{\mathbf{7}}$ ); (Require students to rewrite the problem vertically - not horizontally)
6. $18 ; \underline{20}$
2.7A; 3.2A; 3.2D
7. $\underline{\mathbf{1 0}}$ (i.e. $15-5=\underline{\mathbf{1 0}}$ ) (Require students to check the reasonableness of the problem with each student's numbers.)
2.4A; 3.4A

## Part 3-Reflection and Conceptual Understanding

## Student Answer:

Number Line Boxes answers are ' $\underline{\mathbf{\prime}}$ ' and ' $\underline{4}$ '. Consequently, ' $\underline{\mathbf{8}}$ ' ' $\underline{\prime}$ ' =' $\underline{\mathbf{1 2}} \mathbf{\prime}$

## Learning Opportunity 14

## Part 1 - Numeracy Development

1. a.) 3
b.) 4
c.) 6
d.) 6
2. 2 Thousands 3 Hundreds 2 Tens 5 Ones - 2,325
3. a.) $30,50,60,65,80,85$
b.) $9,12,18,21,27,33$
2.2F; 3.1F

## Part 2 - Application Practice

4. A - $\underline{\mathbf{9 2}}$ (i.e. $57+35=\underline{\mathbf{9 2}}$ ); (Require students to rewrite the problem vertically - not horizontally)
5. B- $\underline{\mathbf{0}}$ (i.e. $35-10=25$; then, $35+25=\underline{\mathbf{0 0}}$ ); (Require students to rewrite the problem vertically - not horizontally)
2.4A; 3.4A
6. $\underline{21}$ (i.e. $47-26=\underline{21}$ )
7. Hank $=\underline{\mathbf{2 1}}$ and Mateo $=\underline{\mathbf{3 6}}$ (i.e. 26-5 $=21-$ Hank; $26+10=36-$ Mateo)

## Part 3 - Reflection and Conceptual Understanding

## Student Answer:

Number Line Boxes answers are ' $\underline{3}$ ' and ' 4 '. Consequently, ' $\underline{3}$ ' $+\underline{4}$ ' = ' $\underline{\prime}$ ' .

## Learning Opportunity 15

## Part 1 - Numeracy Development

1. a.) 9
b.) 5
c.) 11
d.) 10
2.4A
2. 4 Thousands 0 Hundreds 3 Tens 8 Ones - 4,038
3. a.) $60,65,80,90,95,110,115,120$
b.) $0,9,12,18,21,27,33$
2.2F; 3.1F

## Part 2 - Application Practice

4. C- $\underline{\mathbf{2 3}}$ (i.e. $42-19$ ); (Students should rewrite the problem vertically and check subtraction by adding up)
5. D- $\underline{\mathbf{1 3 0}}$ (i.e. $90-50=40$; then, $90+40=\underline{130}$ ); (Require students to rewrite the problem vertically - not horizontally)
2.4A; 3.4A
6. Odd. Teacher Proof: ( $\mathrm{n}=$ even, $\mathrm{n}+1=$ odd; hence, $\mathrm{n}+(\mathrm{n}+1)=\underline{(n+n)+1 \text { or an odd number. }}$

Kid Proof: pick any even number (4, for example) and any odd number (3, for example) - add 3+4=7-always an odd number)
7. $\mathbf{3 , 0 4 9}$ (i.e. NO hundreds - zero is a place holder.

## Part 3-Reflection and Conceptual Understanding Student Answer:

3.1F; 3.1G; 3.4A; 3.5A

Number Line Boxes answers are ' $\underline{9}$ ' and ' $\underline{4}$ '. Consequently, ' $\underline{\prime}$ ' - $\underline{4}$ ' = ' 5 '

## Learning Opportunity 16

## Part 1 - Numeracy Development

1. a.) 5
b.) 8
c.) 15
d.) 7
e.) 9
f.) 7
g.) 6
h.) 13
c.) 2
d.) 20
1.3C; 2.4B
2. a.) Given
b.) Given
g.) 6
h.) 60
b.) $0,12,16,24,28,36,44$
2.2F; 3.1F
3. a.) $0,3,12,18,21,24,27,30,33,36$

4. $\mathbf{B}-\underline{\mathbf{2 8}}$ (i.e. $65-37=\underline{\mathbf{2 8}}$ )

Note: Add up to check correctness of solution: $28+37=65$
5. $\mathbf{C}-\underline{50}$ (i.e. $25+25=\underline{\mathbf{5 0}}$ )
6. 430 and 403 ; then, $430>403$
7. Value of ' 6 ' in $2,860=\underline{\mathbf{6 0}} \quad$ Note: Students can expand number to understand digit's value: $2,000+800+\underline{\mathbf{6 0}}+\mathbf{0}$

## Part 3-Reflection and Conceptual Understanding

Student Answer: Number Line Boxes answers are ' $\underline{10}$ ' and ' $\underline{\mathbf{5}}$ '. Consequently, ' $\underline{10}$ ' - ' $\underline{\mathbf{5}}$ ' =' $\underline{\mathbf{5}}$ '
3.1F; 3.1G; 3.4A; 3.5A

## Learning Opportunity 17

## Part 1 - Numeracy Development

1. a.) 8
b.) 6
c.) 13
d.) 4
e.) 3
f.) 1
g.) 9
h.) 17
2. a.) 10
b.) 90
c.) 30
d.) 70
3.2A
e.) 20
f.) 80
g.) 50
h.) 60
b.) $0,12,16,24,28,36,40,44$
2.2F; 3.1F

TEKS

Part 2 - Application Practice
4. $\mathrm{D}-\underline{\mathbf{6 1}}$ (i.e. $\mathbf{4 2}+19=\underline{\mathbf{6 1}}$ )
3.4A
5. $\mathbf{C}-\underline{\mathbf{5 0}}$ (i.e. $20+15+15=\underline{\mathbf{5 0}}$ )
6. 3,027 and 3,024 ; then, $3,024<3,027$
7. a.) 35
b.) 71 Then, $71-35=\underline{\mathbf{3 6}}$
3.2A; 3.4A

Part 3-Reflection and Conceptual Understanding
Student Answer: Number Line Boxes answers are ' $\underline{11}$ ' and ' $\underline{3}$ '. Consequently, ' $\underline{11}$ ' - ' $\underline{\prime}$ ' =' $\underline{\prime}$ '
3.1F; 3.1G; 3.4A; 3.5A

## Learning Opportunity 18

## Part 1 - Numeracy Development

## TEKS

1. a.) 7
b.) 11
c.) 6
d.) 10
2. 2 Thousands 3 Hundreds 0 Tens 9 Ones -2,309
3. a.) $3,4,6,9$
b.) $6,10,12,16,20$
c.) $30,40,50,70,80,90$
2.2F; 3.1F; 3.4E

Part 2-Application Practice
4. A - $\underline{\mathbf{0 0}}$ (i.e. $50-10=40$, then, $40+20=\underline{\mathbf{6 0}}$ ); (Require students to rewrite the problem vertically - not horizontally)
5. D-14 (i.e. $12-10=2$; then, $12+2=\underline{14}$ );
6. $9,000+800+0+3$
7. Rich $=\underline{\mathbf{7}}$; Ava $=7-6=\underline{\mathbf{1}}$; Rich's Dad $=35+7=\underline{\mathbf{4 2}}$

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Number Line Boxes answers are ' $1 \mathbf{0}$ ' and ' $\underline{4}$ '. Consequently, ' $\underline{\mathbf{1 0}}$ ' - $\underline{4}$ ' = ' $\underline{6}$ '
3.1F; 3.1G; 3.4A; 3.5A

## Learning Opportunity 19

## Part 1 - Numeracy Development

TEKS
b.) 3 c.) 15
d.) 7

1. a.) 8
f.) 5
g.) 11
h.) 6
2. a.) 30
b.) 80
c.) 40
d.) 50
g.) 60
h.) 10
c.) $10,20,30,40,50,60,70,80,90$,
2.2F; 3.1F; 3.4E

## Part 2 - Application Practice

4. a.) 83
b.) 23
c.) 31
5. $\mathbf{C}-\underline{70}$ and $\underline{\mathbf{7}, 000}$ (i.e. $7073=\underline{7,000}+0+\underline{70}+3$ )
6. 5,902
7. а.) $90+2=92$;
b.) $50+9=59$
Therefore, $92+59=15 \underline{1}$ One's place digit is odd. $\underline{\text { ODD }}$

Part 3 - Reflection and Conceptual Understanding
Student Answer: Either is okay. Ricardo's equation is correct since the total is equal on either side of the equal sign (i.e. $7=7$ ).
2.4A; 3.1G

## Learning Opportunity 20

## Part 1 - Numeracy Development

1. a.) 13
b.) 7
e.) 8
f.) 5
2. a.) 3
b.) 80
c.) 10
d.) 9
g.) 12
h.) 4
.) 40
d.) 5
1.3C; 2.4B
c.) 40
h.) 10
3. a.) $2,6,8,10,12,14,16,18,20$
b.) $10,15,20,25,30,35,40,45,50$
c.) $0,10,20,30,40,50,60,70,80,90,1002.2 \mathrm{~F} ; 3.1 \mathrm{~F} ; 3.4 \mathrm{E}$

Part 2-Application Practice
4. a.) 41
b.) 125
c.) 34
3.4A
5. $A-\underline{8}$ and $\underline{8,000}$ (i.e. $8,028=\underline{8,000}+0+20+\underline{8}$ )
6. 2,690
7. a.) Given
b.) $76=70+6$
c.) $138=100+30+8$
3.2A; 3.4A

## Part 3-Reflection and Conceptual Understanding

Student Answer: Numbers are LINED UP to the RIGHT to make sure place value is correct. Adding or subtracting only 1's, 10's, 100's 3.1G; 3.2A

## Learning Opportunity 21

## Part 1 - Numeracy Development

1. a.) odd
b.) even
c.) odd
d.) even
e.) odd
f.) even
g.) even
h.) odd
2. a.) Given
b.) 800
c.) 400
d.) 500
e.) 700
f.) 200
g.) 600
h.) 100

TEKS
3. a.) $2,4,6,8,10,12,14,16,18,20 \quad$ b.) $0,5,10,15,20,25,30,35,40,45,50 \quad$ c.) $0,3,6,9,12,15,18,21,24,27,302.2 F ; 3.1 F ; 3.4 \mathrm{E}$

Part 2-Application Practice
4. a.) 217
b.) 65
c.) 127
5. $\mathbf{C}-\underline{\mathbf{0}}$ and the hundreds place value ( $\mathrm{Th}, \underline{\mathbf{H}}, \mathrm{T}, \mathrm{O}$ )
6. $903>787>599$
7. а.) $88=80+8$
b.) $50=50+0$
c.) $107=100+0+7$

## Part 3-Reflection and Conceptual Understanding

Student Answer: Either is okay. The totals on either side of the equal sign must be equal. Equation direction is not important. (i.e. $9=9$ ). 2.4A; 3.1G

## Learning Opportunity 22

## Part 1 - Numeracy Development

|  | TEKS |  |
| :--- | :--- | ---: |
| c.) even | d.) even | $\mathbf{2 . 7 A}$ |
| g.) even | h.) odd |  |
| c.) 800 | d.) 300 | 3.4 A |
| g.) 700 | h.) 600 |  |

## 3. a.) $0,5,10,15,20,2$ Part 2-Application Practice

4. a.) 417
b.) 114
c.) 420
3.4A
5. $\mathbf{D}-\underline{\mathbf{7 , 0 0 0}}$ and the thousands place value $(\mathrm{T}-\mathrm{Th}, \underline{\mathbf{T h}}, \mathrm{H}, \mathrm{T}, \mathrm{O}) \quad 37,080=30,000+\underline{7,000}+0+80+0$
6. $590>509>499$
7. a.) $249=200+40+9$
b.) $740=700+40+0$
c.) $607=600+0+7$
b.) odd
c.) even
d.) even
2.7A
e.) odd
f.) odd
c.) 800

300
3.4A
2. a.) 200
b.) 900
g.) 700
h.) 600

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Incorrect. The student will add tens (90) to ones (7). The 87 must be shifted/moved to the right to line up the ones digits. 3.1G; 3.2A; 3.4A

## Learning Opportunity 23

## Part 1 - Numeracy Development

c.) $0,4,8,12,16,20,24,28,32,36,40$ 2.2F; 3.1F; 3.4E

500

1. a.) odd
b.) odd
f.) odd
b.) 3
g.) odd
d.) odd
e.) odd
c.) 5
h.) odd
2. a.) Given
f.) 9
g.) 10
d.) 4
1.3A; 2.3D
e.) 7

TEKS
3. а.) $0,3,6,9,12,15,18,21,24,27,30$ b.) $0,4,8,12,16,20,24,28,32,36,40$ c.) $0,11,22,33,44,55,66,77,88,99,1102.2 F ; 3.1 F ; 3.4 \mathrm{E}$
3. а.) $0,3,6,9,12,15,18,21,24,27,30$ b.) $0,4,8,12,16,20,24,28,32,36,40$ c.) $0,11,22,33,44,55,66,77,88,99,1102.2 F ; 3.1 F ; 3.4 E$ Part 2 - Application Practice
4. a.) 312
b.) 219
c.) 377
3.4A
5. $\mathrm{C}-\underline{200}$ and the hundreds place value ( $\mathrm{T}-\mathrm{Th}, \mathrm{Th}, \underline{\mathbf{H}}, \mathrm{T}, \mathrm{O}$ )
$9,280=9,000+\underline{\mathbf{2 0 0}}+80+0$
6. $198<209<290$
7. a.) $2,049=2,000+0+40+9$
b.) $7,400=7,000+400+0+0$
c.) $6,129=6,000+100+20+9$

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Incorrect. The hundreds digit is a zero (0). The standard form number is 3,092. A zero is a place holder equal to zero. 3.1G; 3.2A

## Learning Opportunity 24

## Part 1 - Numeracy Development

1. a.) 7
b.) 4
c.) 9
d.) 10
g.) 15
h.) 4
e.) 10
f.) 3
b.) 10
c.) 3
d.) 30
1.3A; 2.3D
2. a.) 1
f.) 40
g.) 2
h.) 20
b.) $0,4,8,12,16$
3. a.) $0,3,6,9,12,15,18,21,24,27,30$

## Part 2 - Application Practice

4. a.) 772
b.) 31
c.) 307
3.4A
5. $C-\underline{20}$ (i.e. $45-25=\underline{20}$ )
6. $1,808>1,789$
7. a.) $9,701=9,000+700+0+1$
b.) $1,003=1,000+0+0+3$
c.) $8,329=8,000+300+20+9$

## Part 3 - Reflection and Conceptual Understanding

Student Answer: 14 is even. $14=10+4$. Half of 10 is $\underline{\mathbf{5}}$. Half of 4 is $\underline{\mathbf{2}}$. Hence, $(5+2=\underline{7}) 14$ is divided equally into 2 groups of $\underline{7}$ each. Or Students separate 14 into equal groups of $\underline{7}$ by drawing 14 objects and circling two groups of $\underline{7}$ each.
2.7A; 3.1F 3.1G; 3.4I

## Learning Opportunity 25

## Part 1 - Numeracy Development

1. a.) Given
b.) $88<109$
c.) $132>123$
d.) $75=75$

TEKS
e.) $290>209$
f.) $27>18$
g.) $210=210$
h.) $55<60$
2. a.) 4
b.) 40
c.) 10
d.) 20
g.) 25
h.) 5
3. а.) $0,3,6,9,12,15,18,21,24,27,30$ b.) $0,4,8,12,16,20,24,28,32,36,40$ c.) $0,5,10,15,20,25,30,35,40,45,50$ 2.2F; 3.1F; 3.4E Part 2-Application Practice
4. a.) 1,957
b.) 34
c.) 347
5. $B-(M i=\underline{18} ; \mathrm{Jin}=\underline{14})($ e.g. $\mathrm{Mi}=10+8=\underline{18} ; \mathrm{Jin}=18-4=\underline{14})$
6. $\mathbf{B}-\underline{\mathbf{8 2}}(35+12=47$; then, $35+47=\underline{\mathbf{8 2}})$
7. а.) $7,650=7,000+600+50+0$
b.) $4,162=4,000+100+60+2$
c.) $5,020=5,000+0+20+0$
3.2D

## Part 3-Reflection and Conceptual Understanding

Student Answer: An even number is always a multiple of 2.
2.4A; 2.7C; 3.1G; 3.41

## Learning Opportunity 26

## Part 1 - Numeracy Development

1. a.) $1,307<1,703$
b.) $7,128<7,228$
c.) $2,885=2,885$
d.) $315<321$
e.) $8,090<8,187$
f.) $9,032>9,031$
g.) $4,348=4,348$
h.) $6,091<9,091$
2. a.) 6
b.) 9
c.) 10
d.) 25
1.3A; 2.3B
e.) 5
f.) 8
g.) 7
h.) 15

TEKS
3. а.) $0,4,8,12,16,20,24,28,32,36,40 \quad$ b.) $0,6,12,18,24,30,36,42,48,54,60$ c.) $0,11,22,33,44,55,66,77,88,99,110 \quad$ 2.2F; 3.1F; 3.4E

## Part 2-Application Practice

4. a.) 7,900
b.) 144
c.) 405
3.4A
5. $\mathrm{A}-(\mathrm{Sam}=\underline{41} ; \operatorname{Alex}=\underline{7})(\mathrm{e} . \mathrm{g} . \operatorname{Sam}=27+14=\underline{41}$ and Alex $=27-20=\underline{7})$
6. 18
7. a.) $9, \underline{6} 08=$ hundreds, $600 \quad$ b.) $3,1 \underline{\mathbf{0}} 2=$ tens, 0
c.) $\boldsymbol{7}, 440=$ thousands, 7,000
2.2F; 3.4A
3.2A

## Part 3 - Reflection and Conceptual Understanding

Student Answer: No. The addends can be switched in addition, but not subtraction (No Commutative Property). $15-9=6$ 9-15\# 6 3.1F; 3.1G

Learning Opportunity 27

## Part 1 - Numeracy Development

1. a.) $6,309<6,903$
b.) $4,558>4,158$
c.) $1,805>1,085$
d.) $3,001<3,020$
e.) $4,027=4,027$
f.) $2,032=2,032$
g.) $8,642>8,462$
h.) $5,035<5,055$
2. a.) 8
b.) 7
c.) 15
d.) 30
e.) 50
f.) 40
g.) 35
h.) 25
3. a.) $0,6,12,18,24,30,36,42,48,54,60 \quad$ b.) $0,7,14,21,28,35,42,49,56,63,70 \quad$ c.) $0,11,22,33,44,55,66,77,88,99,110 \quad$ 2.2F; 3.1F; 3.4E Part 2 - Application Practice
4. a.) 8,614
b.) 157
c.) 259
5. $\mathbf{B}-\underline{33}$ (e.g. $90-57=\underline{33})$
6. $\mathrm{C}-\underline{16}$
7. a. - I. Spell words correctly. Note: With English Learners (ELs/ELLs), focus on 'three' and 'eight' - no 'th' in Spanish and 'igh' in 8.

## Part 3-Reflection and Conceptual Understanding

Student Answer: Differences are always equal spaces between the two numbers ( $15-9=6$ ). So, $(84-36=48), 48$ equal spaces.
3.1F; 3.1G

## Part 1 - Numeracy Development

1. a.) 20
b.) 16
e.) 16
f.) 9
c.) 6
d.) 12
3.4F
g.) 21
h.) 21
2. a.) Given;
$3+2=5 ;$
$5-2=3$;
Given
2.4D
b.) $1+6=7$;

Given;
Given;
$7-6=1$
3. a.) $0,6,12,18,24,30,36,42,48,54,60$
b.) $0,7,14,21,28,35,42,49,56,63,70$ c.) $0,8,16,24,32,40,48,56,64,72,80$
2.2F; 3.1F; 3.4E

## Part 2 - Application Practice

4. a.) Mateo $=20$; Jorge $=40$; $(20+40=\underline{60})$ b. $)$ Alberto $=30$; Mateo $=20 ;(30-20=\underline{10})$
3.1D; 3.4A; 3.8B
5. $\mathbf{C}-\underline{40}$ (Sasha $=20$; Olivia $=\underline{40}$ ) Note: Half of Olivia's (40) equals Sasha's (20)
1.3A; 2.3D; 2.7A
6. a. - I. Spell words correctly. Note: With English Learners (ELs/ELLs), focus on 'three' and 'eight' - no 'th' in Spanish and 'igh' in 8. 3.1G

## Part 3 - Reflection and Conceptual Understanding

Student Answer: On the number line, each box is a ' 5 '. Multiplication equation: $2 \times 5=10$
3.1F; 3.1G; 3.5B

Learning Opportunity 29

## Part 1 - Numeracy Development

1. a.) 10
b.) 8
c.) 18

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e.) 25
f.) 3
g.) 20
d.) 12
3.4F
b.) 15
c.) 20
h.) 18
d.) 30
2.3D
e.) 35
f.) 40
g.) 45
h.) 50
3. a.) $0,7,14,21,28,35,42,49,56,63,70$
b.) $0,8,16,24,32,40,48,56,64,72,80$
c.) $0,9,18,27,36,45,54,63,72,81,90$
2.2F; 3.1F; 3.4E

## Part 2 - Application Practice

4. a.) 174
b.) 10,017
c.) 371
5. C-40 (i.e. Half of 80 is $\underline{40}$ )
6. $\underline{35}$ - multiples of 7

## Part 3 - Reflection and Conceptual Understanding

Student Answer: On the number line, each box is a ' 2 '. Multiplication equation: $4 \times 2=8$.

## Learning Opportunity 30

## Part 1 - Numeracy Development

1. a.) 4
b.) 24
c.) 0
d.) 6 3.4F
e.) 16
f.) 5
g.) 27
h.) 9
2. a.) Given;
$8+1=9 ;$
$9-1=8$;
$9-8=1$
2.4D
b.) $3+5=8 ; \quad 5+3=8$;
Given;
$8-3=5$
3. a.) $0,7,14,21,28,35,42,49,56,63,70$
b.) $0,8,16,24,32,40,48,56,64,72,80$
c.) $0,9,18,27,36,45,54,63,72,81,90$
2.2F; 3.1F; 3.4E

## Part 2 - Application Practice

4. a.) Mr. Beau's class $=24$; Ms. Chic's class $=15$; $(24-15=\underline{9})$
b.) Ms. Jolie's class = 18; $(18+15=\underline{\mathbf{3 3}})$
3.4A; 3.8B
5. $\mathrm{A}-\underline{12}$ (i.e. $4 \times 3=\underline{12}$ )
6. a. - h. Spell words correctly. Note: With English Learners (ELs/ELLs), focus on 'thirteen' and 'eighteen' - no 'th' blend in Spanish

Student Answer: On the number line, each box is a ' 4 '. Multiplication equation: $3 \times 4=12$.
3.1F; 3.1G; 3.5B

## Learning Opportunity 31

## Part 1 - Numeracy Development

1. a.) 4
b.) 9
c.) 16
d.) 25
e.) 36
f.) 49
g.) 64
h.) 81
3.4F
2. a.) $5+6=11 ; \quad 6+5=11$;
$11-6=5$;
$11-5=6$
b.) $5+8=13 ; \quad 8+5=13$;

13-5 = 8;
$13-8=5$
3. a.) $0,8,16,24,32,40,48,56,64,72,80$ b.) $0,9,18,27,36,45,54,63,72,81,90$ c.) $0,12,24,36,48,60,72,84,96,108,120 \quad$ 2.2F; 3.1F; 3.4 E

## Part 2 - Application Practice

4. a.) 921
b.) 532
c.) 27
3.4A
5. $\mathbf{A}-\underline{\mathbf{5 0}}(\mathbf{5} \times 10=\underline{\mathbf{5 0}})$
6. $\mathbf{B}-(4 \times 3=\underline{\mathbf{1 2}})$
7. a. - I. Spell words correctly.

## Part 3-Reflection and Conceptual Understanding

Student Answer: Multiplication equation: $3 \times 5=15$.
3.1F; 3.1G; 3.4F; 3.5B

## Learning Opportunity 32

## Part 1 - Numeracy Development

1. a.) $8+7=15 ; 7+8=15$;

$$
15-7=8 ; \quad 15-8=7
$$

b.) $9+7=16 ; \quad 7+9=16$;
$16-9=7 ; \quad 16-7=9$
2. a.) Given
b.) $8 \quad$ c.) 12
d.) 4
2.3.D
e.) 20
f.) 16
g.) 14
h.) 10
3. a.) $0,8,16,24,32,40,48,56,64,72,80$ b.) $0,9,18,27,36,45,54,63,72,81,90$ c.) $0,12,24,36,48,60,72,84,96,108,120 \quad$ 2.2F; 3.1 F; 3.4 E

## Part 2 - Application Practice

4. a.) 18
b.) 24
c.) 27
3.4F
5. $B-\underline{24}$ (i.e. $6 \times 4=\underline{\mathbf{2 4}}$ ) 3.4F; 3.4F; 3.4K
6. $D-$ (i.e. $5 \times 3=\underline{\mathbf{1 5}} ; 3 \times 5=\underline{\mathbf{1 5}}$ )
7. a. - I. Spell words correctly.

## Part 3-Reflection and Conceptual Understanding

Student Answer: Multiplication equation: $3 \times 3=9$
3.1F; 3.1G; 3.4F; 3.5B

## Learning Opportunity 33

## Part 1 - Numeracy Development

1. a.) 4
b.) 9
c.) 16
d.) 25
e.) 36
f.) 49
g.) 64
h.) 81
2. a.) 4
b.) 2
c.) 10
d.) 8
3.4F
h.) 14
3. a.) $0,8,16,24,32,40,48,56,64,72,80$ b.) $0,9,18,27,36,45,54,63,72,81,90$ c.) $0,12,24,36,48,60,72,84,96,108,120 \quad$ 2.2F; 3.1F; 3.4E

## Part 2 - Application Practice

4. a.) 0
b.) 21
c.) 32
3.4 F

5. $\mathrm{D}-4 \times 2=\underline{8}$
6. a. - h. Spell words correctly. Note: With English Learners (ELs/ELLs), focus on 'thirteen' - no 'th' blend in Spanish. Eighteen, too

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Incorrect. The groups (jumps are not equal). Multiplication must have equal number of objects in each groups (jumps) 3.1F; 3.1G


## Learning Opportunity 35

## Part 1 - Numeracy Development

1. a.) 24
b.) 4
c.) 6
e.) 16
f.) 1
g.) 2
d.) 27
3.4F
2. a.) 6
b.) 60
c.) 8
h.) 3
e.) 40
f.) 30
g.) 50
d.) 80
h.) 100
c.) 40
d.) 42
3.2A; 3.1G
3. a.) 31
b.) 59

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g.) 37
h.) 26
i.) 83

## Part 2-Application Practice

4. $\mathbf{B}-(3 \times 3=9)$ - Press the term "Group Model" for multiplication.
3.4E; 3.4F
5. $\mathbf{D}-(4 \times 5=20)$
6. $\mathbf{B}-(3 \times 3=9)-$ Press the term "Area Model" for multiplication.
7. a. - h. Spell words correctly. Focus on the correct spellings of 'thirty, forty, eighty and ninety.'

## Part 3-Reflection and Conceptual Understanding

Student Answer: All three multiplication models represent the same multiplication equation $(3 \times 3=9)$.
3.1G; 3.1F; 3.4F; 3.5B

## Learning Opportunity 36

## Part 1 - Numeracy Development

1. a.) 3
b.) 4
c.) 3
d.) 21
e.) 36
f.) 3
g.) 3
h.) 7
2. a.) 12
b.) 120
f.) 50
c.) 30
d.) 100
e.) 40
b.) 49
g.) 60
h.) 80
c.) 40
d.) 68
3.2A; 3.1G
3. a.) 73
f.) 70
g.) 31
h.) 55
i.) 94

## Part 2 - Application Practice

4. $\mathbf{D}-(3 \times 5=15)$ - Press the term "Group Model" for multiplication.
5. C $-(7 \times 8=56)-$ Recommended to show a drawing and emphasis 'column' and 'row' vocabulary.
6. D - ( $3 \times 5=15$ ) - Press the term "Area Model" for multiplication.
3.4F; 3.5B
7. a. - h. Spell words correctly.

## Part 3 - Reflection and Conceptual Understanding

Student Answer: All three multiplication models represent the same multiplication equation (3×5=15).
3.1G; 3.1F; 3.4F; 3.5B


## Learning Opportunity 39

## Part 1 - Numeracy Development

1. a.) 18
b.) 30
f.) 24
c.) 81
d.) 54
e.) 24
b.) 50
g.) 8
h.) 0
2. a.) 50
f.) 100
c.) 0
d.) 30
3.4B
e.) 10
b.) ninety-five
g.) 90
h.) 40
3. a.) forty-two
f.) sixty-eight
g.) twenty-four
c.) thirty
d.) ninety-nine
3.1G; 3.2A

Part 2 - Application Practice
4. $\mathbf{B}$ - Group Model is $3 \times 3=9$ - which is incorrect - it is not the model for $2 \times 3=6$
3.4E; 3.4F
5. C - $\underline{\mathbf{1 0}}$ - (Double 4 equals $8,8 \times 3=24,24-4=20$, half of 20 equals $\underline{10}$ )
2.4D; 3.5C
6. $\mathrm{C}-\underline{29}$ ( $105-76=\underline{29}$ )

## Part 3-Reflection and Conceptual Understanding

Student Answer: 4 columns by 2 rows $(4 \times 2=8)$ or 2 columns by 4 rows $(2 \times 4=8)$. Note: Or vice versa on the diagrams. $3.1 F ; 3.1 G ; 3.4 F ; 3.4 E$

## Part 1 - Numeracy Development

1. a.) 45
b.) 6
c.) 5
d.) 42
3.4F; 3.5D
g.) 8
h.) 9
e.) 4
f.) 72
c.) 0 (nearest 100 is 0 )
d.) 100
g.) 900
h.) 500
c.) five hundred forty
3.1G; 3.2A
2. a.) Given
b.) 300
b.) two hundred seventy-six
3. Shade a $3 \times 5$ grid in squares
4. $\mathbf{B}-\underline{\mathbf{2 0}}$ (e.g. $2 \times 10=\underline{\mathbf{2 0}}$ ) (Jesus is 20)
5. $\mathbf{B}-\underline{87}$ (e.g. Matthew $=64-25=39 ;$ Van $=39$ cards); Thus, $39+48=\underline{87}$

Part 3-Reflection and Conceptual Understanding
Student Answer: If students can't do this, practice.

2.4A; 3.1G; 3.5A

## Learning Opportunity 41

## Part 1 - Numeracy Development

1. a.) Square
b.) Triangle
c.) Trapezoid
d.) Rectangle
3.4F; 3.5D
2. a.) 200
b.) 300
c.) 100
d.) 0
g.) 1,000
h.) 500
3. a.) one hundred five
b.) seven hundred forty
c.) nine hundred eighty-seven
3.1G; 3.2A

## Part 2 - Application Practice

4. Shade $4 \times 6$ squares in grid
5. A- $\underline{9}$ (e.g. Henry = 6; Mary = 18, John = $\underline{\mathbf{9}}$ )
6. D- $\underline{\mathbf{2 8}}$ (e. g. James $=67$; Van $=39$ cards); Thus, $67-39=\underline{\mathbf{2 8}}$

## Part 3-Reflection and Conceptual Understanding

Student Answer: If students can't do this, practice.

2.4A; 3.1G; 3.5A

## Learning Opportunity 42

Part 1 - Numeracy Development

1. a.) Trapezoid
b.) Square
c.) Rectangle
d.) Triangle
2. a.) 100
b.) 600
f.) 0
c.) 200
d.) 500
g.) 1,000
h.) 800
c.) two hundred sixty
3.1G; 3.2A
3. a.) seven hundred eight
b.) eight hundred forty-three
4. a. Place four (4) dots in each of the five (5) squares b. Place five (5) dots in each of the four (4) squares c. 20 dots in either $\mathbf{a}$. or $\mathbf{b}$.
5. D - Mara, $\underline{\mathbf{2 2}}-$ (e.g. Jose $=7 \times 3=21$; Mara $=11+11$ or $11 \times 2=\underline{\mathbf{2 2}})$

## Part 3 - Reflection and Conceptual Understanding

Student Answer: If students can't do this, practice. (2 jumps of 5 shown) or 5 jumps of 2 each (not shown)


## Learning Opportunity 43

## Part 1 - Numeracy Development

1. a.) Rhombus
b.) Parallelogram
c.) Pentagon
d.) Trapezoid
2. a.) Given
b.) 7,000
c.) 4,000
d.) 2,000
e.) 1,000
f.) 8,000
g.) 0
h.) 5,000
3. a.) Given
b.) two thousand five hundred three
c.) five thousand seven hundred thirty
3.1G; 3.2A

## Part 2 - Application Practice

4. a.) Place 3 dots in each circle for all 6 circles.
b.) Place 6 dots in each circle for all 3 circles
c.) 18 dots in both a.) and b.) 3.4 E ; 3.4 F
3.4A; 3.4F; 3.4K
5. $\mathbf{D}-\mathbf{4 0}$ (e.g. $(5+5) \times 4=\underline{40})$ or $(10 \times 4=\underline{40})$
6. C-2 (e.g. halve $20=10$; halve $10=5 ; 5 \times 6=30 ; 30+7=37 ; 37-12=\underline{\mathbf{2 5}}$ )
3.3C; 3.4A; 3.5C

## Part 3 - Reflection and Conceptual Understanding

Student Answer: If students can't do this, practice. or, 6 jumps or 3 each.

3.1F; 3.1G
3.4E; 3.4F

## Learning Opportunity 44

## Part 1 - Numeracy Development

1. a.) Trapezoid
b.) Pentagon
c.) Rhombus
d.) Parallelogram
2. a.) 6,000
b.) 8,000
c.) 9,000
d.) 10,000
g.) 1,000
h.) 8,000
3. a.) five thousand three hundred
b.) eight thousand eight
c.) one thousand nine hundred forty
3.1G; 3.2A

## Part 2 - Application Practice

4. a.) Place 4 dots in each circle for all 6 circles.
b.) Place 6 dots in each circle for all 4 circles
c.) 24 dots in both a.) and b.)
3.4E; 3.4F
5. C- $\underline{\mathbf{9 0}}$ (e.g. About - estimation problem - estimate first, then add! 31 to 30 and 57 to 60 . Thus, $30+60=\underline{\mathbf{9 0}}$ )
3.4A; 3.4B
6. $\mathrm{D}-\underline{\mathbf{3 6}}$ (e. g. 9 stacks $\times 4$ beads per stack $=\underline{\mathbf{3 6}}$ beads)
3.4F; 3.4K

## Part 3 - Reflection and Conceptual Understanding

Student Answer: If students can't do this, practice.


## Learning Opportunity 45

## Part 1 - Numeracy Development

1. a.) Trapezoid
b.) Pentagon
c.) Hexagon
d.) Octagon
2. a.) 4,000
b.) 3,000
e.) 6,000
f.) 2,000
3. a.) one thousand two hundred forty-nine
b.) seven thousand thirty-five
c.) 1,000
d.) 10,000
g.) 0
h.) 9,000
c.) two thousand eight hundred ninety

## Part 2 - Application Practice

4. B - $\underline{\mathbf{3}}$ William puts 3 baseballs in each of 4 boxes. Start of division process - pictorial. Recommend students number the boxes $1-4, \quad \mathbf{3 . 4 H}$ then label ALL the baseballs $1-4$ until all baseballs are numbered. Students can put the ' 1 ' balls in the ' 1 ' box, ' 2 ' balls in 2 box, etc.
5. $\mathbf{C}-\underline{\mathbf{3 0}}$ (e.g. Chris placed $5 \times 6=\underline{\mathbf{3 0}}$ )
3.4F; 3.4K
6. C-2 $\underline{\mathbf{2 5}}$ (e.g. Double $4=8 ; 8 \times 5=40 ;$ Halve $40=20 ; 20-15=5 ; 5+20=\underline{\mathbf{2 5}}$ )
2.4D; 3.4A; 3.4F; 3.5C

Part 3-Reflection and Conceptual Understanding
Student Answer: If students can't do this, practice.


## Learning Opportunity 46

## Part 1 - Numeracy Development

1. a.) Trapezoid
b.) Pentagon
c.) Hexagon
d.) Rhombus
g.) Octagon
h.) Square
f.) Triangle
c.) $70-50=20$
d.) $20+60=80$
3.4A; 3.4B

## Part 2 - Application Practice

3. A - $\underline{\mathbf{2}}$ (2 flowers in each vase) - ( $14 \div \mathbf{7}=\mathbf{2})$ - Recommend students number the vases $1-7$, then label ALL the flowers $1-7$ until all $\mathbf{3 . 4 H}$ flowers are numbered. Students can put the ' 1 ' flowers in the ' 1 ' vase, ' 2 ' flowers in 2 vase, etc.
4. $D-\underline{40}$ (e.g. 90-50 = 40) NOTE: Students MUST first round the numbers. Then and only then, should they subtract to find an estimate.
3.4A; 3.4B
5. $B-\underline{21}($ e.g. $7 \times 3=\underline{21})$
3.4F; 3.4K

## Part 3 - Reflection and Conceptual Understanding

Student Answer: 4 groups x $2=4 \times 2=8$;
$3 \times 4=12$ or $4 \times 3=12 ;$
2 groups of $5=2 \times 5=10$
3.1F; 3.1G; 3.4E

## Learning Opportunity 47

## Part 1 - Numeracy Development

1. a.) Rhombus
b.) Parallelogram
f.) Triangle
c.) Octagon
d.) Trapezoid
g.) Hexagon
h.) Quadrilateral
e.) Pentagon
b.) $70+30=100$
c.) $80-40=40$
d.) $30+60=90$
3.4A; 3.4B

## Part 2 - Application Practice

3. $\mathbf{C}-\underline{4}(4$ flowers in each vase $)-(12 \div 3=4)-$ Recommend students number the pots $1-3$, then label ALL the flowers $1-3$ until all 3.4 H flowers are numbered. Students can put the ' 1 ' flowers in the ' 1 ' pot, ' 2 ' flowers in 2 pot, etc.
4. $C-\underline{180}$ (e.g. $80+100=\underline{\mathbf{1 8 0}})$
5. $\mathbf{C}-\underline{72}$ (e.g. $8 \times 9=\underline{\mathbf{7 2}})$
art 3-Reflection and Conceptual Understanding
Student Answer: 3 groups $\times 3=3 \times 3=9$;
$3 \times 7=21$ or $7 \times 3=21 ;$
3 groups of $4=3 \times 4=12$
3.1F; 3.1G; 3.4E

## Learning Opportunity 48

## Part 1 - Numeracy Development

1. a.) Given
b.) $10: 00$
c.) $1: 00$
d.) $3: 30$
e.) $12: 00$
f.) $4: 30$
g.) $7: 30$
h.) $6: 00$
i.) $5: 30$
j.) $10: 30$
2. a.) $70-20=50$
b.) $60+40=100$
c.) $70-10=60$
d.) $60+50=110$
3.4A; 3.4B

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## Part 2 - Application Practice

3. a.) Given
b.) 4,2
c.) 5, 2 and 2, 5
3.4F; 3.5J
4. $\mathbf{C}-\mathbf{3 0}$ (e.g. $80-50=\underline{\mathbf{3 0}}$ )
5. $\mathrm{D}-0(\mathrm{e} . \mathrm{g} .8 \times 3=24 ; 6 \times 4=24)(24-24=\underline{0})$
3.4A; 3.4F; 3.4K

## Part 3-Reflection and Conceptual Understanding

Student Answer: Student answers will vary. However, if the student can write a simple word problem, they will undoubtedly be capable 3.1F; 3.1G; to recognize and solve an addition problem. The teacher can practice with their students on this skill by providing a 3.4A simple addition equation and students complete the word problem. It is highly recommended the teacher model the exercise, and they write several problem together (guided practice) and share. In a short time, students will master this skill. An example of a student response is the following: Amara saved $\$ 6$ dollars in her piggy bank. Her mother gave her $\$ 7$ dollars. What is the total amount of money that Amara has in her piggy bank? Solution: $\$ 13$.

## Learning Opportunity 49

## Part 1 - Numeracy Development

1. a.) $6: 00$
b.) $4: 30$
c.) $6: 15$
d.) $7: 45$
i.) $12: 45$
e.) $5: 30$
f.) $3: 45$
g.) $3: 15$
h.) $9: 30$
j.) $12: 00$
2. a.) Given
b.) $200+400=600$
c.) $800-500=300$
d.) $400+500=900$
3.4A; 3.4B
Part 2 - Application Practice
3. a.) 4,2
b.) $10 \div 5=2 ; 10 \div 2=5$
c.) $12 \div 4=3 ; 12 \div 3=4$
3.4F; 3.4J
4. $D-\underline{600}$ (e.g. $145+450=? ; 100+500=\underline{\mathbf{6 0 0}}$ )
5. $C-\underline{81}(\mathrm{e} . \mathrm{g} .9 \times 9=\underline{81})$

TEKS
art 3 - Reflection and Conceptual Understanding
Student Answer: Student answers will vary. However, if the student can write a simple word problem, they will undoubtedly be capable 3.1F; 3.1G; to recognize and solve an addition problem. The teacher can practice with their students on this skill by providing a simple 3.4A addition equation and students complete the word problem. It is highly recommended the teacher model the exercise, and they write several problem together (guided practice) and share. In a short time, students will master this skill. An example of a student response is the following: Jill walked 12 miles last week. This week Jill walked 15 miles. What is the total distance Jill walked in the last two weeks? Solution: 27 miles.

## Learning Opportunity 50

## Part 1 - Numeracy Development

1. a.) $9: 30$
b.) $9: 20$
c.) $7: 45$
d.) $11: 10$
e.) 3:15
2.9G
f.) $2: 50$
g.) $5: 20$
h.) $3: 45$
i.) $12: 40$
j.) 8:50
2. a.) $900-400=500$
b.) $600+200=800$
c.) $1,000-200=800$
d.) $300+600=900$
3.4A; 3.4B
Part 2-Application Practice
3. a.) Given
b.) $21 \div 7=3 ; 21 \div 3=7$
c.) $16 \div 8=2 ; 16 \div 2=8$
3.4F; 3.4J
4. $C-8 \times 3=$ ? (e.g. 24)
5. $\mathrm{A}-\underline{\mathbf{3 1 1}}$ (e.g. $850-539=\underline{\mathbf{3 1 1}})$

## Part 3-Reflection and Conceptual Understanding

Student Answer: Student answers will vary. However, if the student can write a simple word problem, they will undoubtedly be capable 3.1F; 3.1G; to recognize and solve an addition problem. The teacher can practice with their students on this skill by providing a simple 3.4A addition equation and students complete the word problem. It is highly recommended the teacher model the exercise, and they write several problem together (guided practice) and share. In a short time, students will master this skill. An example of a student response is the following: : Billy found 25 sea shells on the beach. Joe picked up 43 sea shells. What is the total number of shells the two boys found on the beach combined? Solution: 68.

Learning Opportunity 51

## Part 1 - Numeracy Development

1. a.) $6: 15$
b.) $2: 05$
c.) $9: 25$
d.) $7: 45$
e.) $2: 50$
f.) $8: 55$
g.) $12: 35$
h.) $12: 00$
i.) $5: 55$
j.) $10: 35$
2. a.) $700-300=400$
b.) $100+700=800$
c.) $600-400=200$
d.) $400+600=1,000$
3.4A; 3.4B

TEKS

## Part 2 - Application Practice

3. a.) $12 \div 4=3 ; 12 \div 3=4$
b.) $15 \div 5=3 ; 15 \div 3=5$
c.) $18 \div 2=9 ; 18 \div 9=2$
3.4F; 3.4J
4. $A-3 \times 7=$ ? (e.g. 21)
5. C - $\underline{1,059}$ (e.g. $492+567=\underline{1,059}$ )
3.4A

## Part 3-Reflection and Conceptual Understanding

Student Answer: See above explanations. An example of a student response is the following: Allison has 15 ribbons. She
3.1F; 3.1G; 3.4A gives 8 ribbons to her sister. How many ribbons does Allison have left? Solution: 7.

## Learning Opportunity 52

## Part 1 - Numeracy Development

1. a.) $2: 05$
b.) $3: 57$
c.) $9: 25$
g.) $3: 03$
h.) $5: 38$
f.) $12: 45$
$\begin{array}{ll}\text { d.) } 12: 27 & \text { e.) } 4: 07\end{array}$
2.9G
i.) 5:53
j.) $12: 58$
2. a.) Given
b.) $3,000+6,000=9,000$
c.) $5,000-2,000=3,000$
3.4A; 4.2D

## Part 2 - Application Practice

3. а.) $3 \times 4=12 ; 12 \div 4=3$
b.) $2 \times 5=10 ; 5 \times 2=10 ; 10 \div 5=2$
4. $\mathbf{A}-\underline{3 \times 4=?}$ (e.g. 12)
5. a.) Square
b.) Triangle c.) Quadrilateral
d.) Trapezoid
e.) Parallelogram
3.6A; 3.6B
f.) Circle
g.) Rhombus
h.) Rectangle

Quadrilaterals: a.); c.); d.); e.); g.); h.) Parallelograms: a.); e.); g.); h.)

## Part 3-Reflection and Conceptual Understanding

Student Answer: Student answers will vary. See Solutions 49 and 50. An example of a student response is the following:
3.1F; 3.1G; 3.4A William has 35 dollars. He spends 17 dollars on a new MP-3. How much money does he have left? Solution: 18.

## Learning Opportunity 53

## Part 1 - Numeracy Development

1. a.) Given
b.) $1 / 5$
c.) $1 / 3$
h.) $3 / 6$
f.) $2 / 3$
g.) $2 / 5$
d.) $2 / 3$
e.) $3 / 4$
2.8C
b.) $6,000+3,000=9,000$
i.) $2 / 4$
j.) $1 / 4$
c.) $6,000-1,000=5,000$
3.4A; 4.2D

Part 2-Application Practice
3. а.) $3 \times 7=21 ; 21 \div 3=7$
b.) $4 \times 8=32 ; 8 \times 4=32 ; \quad 32 \div 4=8 ; \quad 32 \div 8=4$
4. $C-\underline{7 \times 2=?}$ (e.g. 14)
5. a.) Pentagon
b.) Parallelogram
c.) Hexagon
d.) Rhombus
e.) Circle
f.) Trapezoid
g.) Rectangle
h.) Quadrilateral
3.4F; 3.6C

Quadrilaterals: b.); d.); f.); g.); h.) Parallelograms: b.); d.); g.) Note: $\underline{A N Y} 6$ sided figure is classified as a hexagon.

## Part 3-Reflection and Conceptual Understanding

Student Answer: Student answers will vary. See Solutions 49 and 50. An example of a student response is the following:
3.1F; 3.1G; 3.4A Ralph has been tardy to school 94 times. John has been tardy 23 times. How many more times has Ralph been tardy than John? Solution: 71.

## Learning Opportunity 54

## Part 1 - Numeracy Development

1. a.) $1 / 2$
b.) $5 / 8$
c.) $2 / 3$
d.) $3 / 4$
e.) $2 / 5$
2.8C
f.) $4 / 8$
g.) $5 / 10$
h.) $5 / 8$
i.) $3 / 5$
j.) $4 / 6$
2. a.) $6,000-3,000=3,000$
b.) $7,000+4,000=11,000$
c.) $10,000-4,000=6,000$
3.4A; 4.2D

## Part 2-Application Practice

3. а.) $7 \times 8=56 ; 8 \times 7=56 ; 56 \div 7=8 ; 56 \div 8=7$
b.) $6 \times 8=48 ; 8 \times 6=48 ; 48 \div 6=8 ; 48 \div 8=6$

4. a.) Pentagon
b.) Rhombus
c.) Nothing - not a polygon
d.) Parallelogram
e.) Trapezoid
5. A . 3.6 B
f.) Rectangle
g.) Hexagon
h.) Square NOTE: A polygon must possess straight sides and be a closed figure.
Quadrilaterals: b.); d.); e.); f.); h.); Parallelograms: b.); d.); f.); h.)

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Student answers will vary. See Solutions 49 and 50 . An example of a student response is the following: $\quad \mathbf{3 . 1 F} ; \mathbf{3 . 1 G} ; \mathbf{3 . 4 F} ; \mathbf{3 . 4 K}$ Betsy placed 5 coins in stacks. Each stack had six coins. What is the total number of coins in Betsy's stacks? Solution: 30

## Learning Opportunity 55

## Part 1 - Numeracy Development

1. a.) $2 / 4$
b.) $3 / 3$
c.) $1 / 3$
h.) $9 / 10$
$\begin{array}{ll}\text { d.) } 2 / 3 & \text { e.) } 5 / 6 \\ \text { i.) } 3 / 4 & \text { j.) } 3 / 5\end{array}$
f.) $3 / 6$
g.) $5 / 8$
2. a.) Given
b.) $50,000+2,000+500+30+1$
c.) $80,000+9,000+0+20+7$
3.2A; 4.2B

Part 2 - Application Practice
3. a.) $5 \times 9=45 ; 9 \times 5=45 ; 45 \div 5=9 ; 45 \div 9=5$;
b.) $8 \times 9=72 ; 9 \times 8=72 ; \quad 72 \div 8=9 ; \quad 72 \div 9=8$;
4. D - Both B and C work (e.g. $7 \times 3=3 \times 7=21$ )
5. $D-20$

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Student answers will vary. See Solutions 49 and 50. An example of a student response is the following: $\mathbf{3 . 1 F} ; \mathbf{3 . 1 G} ; \mathbf{3 . 4 F} ; \mathbf{3 . 4 K}$ Brett has five stacks of shirts with 9 shirts in each stack. How many shirts does he own in total? Solution: 45.

## Learning Opportunity 56

## Part 1 - Numeracy Development

TEKS

1. a.) >
b.) =
2. a.) B-67 cents
b.) J - $\$ 18.00$
2.8C; 3.3A; 3.3E; 3.3H
3. a.) $60,000+5,000+900+40+8$
b.) $40,000+500+6$
c.) $70,000+4,000+700+60$
3.4A; 3.4C

Part 2 - Application Practice
4. $\mathbf{C}-12 \div \mathbf{3}=\mathbf{4}$ (e.g. 4 flowers in each of the 3 pots)
3.4F; 3.4H
5. B-1 x $5=5$ Note: Students should make a little check mark on each square's edge to count correctly
3.4F; 3.6C
6. C-6 (Students need to count dots for 4 and 5.)
3.8B

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Student answers will vary. See Solutions 49 and 50. An example of a student response is the following: $\mathbf{3 . 1 F}$; 3.1G; 3.4F; 3.4K Jeff is paid 9 dollars for shoveling snow each day for 5 days. How much money did Jeff make shoveling snow? Solution: 45.

## Learning Opportunity 57

## Part 1 - Numeracy Development

1. a.) >
b.) <
2. a.) $\mathbf{C}-91$ cents
b.) J - $\$ 36.00$
2.8C; 3.3A; 3.3E; 3.3H
3. a.) $10,000+4,000+8$
b.) $40,000+9,000+40+5$
c.) $60,000+700+3$
3.4A; 3.4C

Part 2 - Application Practice
4. $\mathbf{D}-12 \div \mathbf{2}=\mathbf{6}$ (e.g. 6 flowers in each of the 2 pots - problem kept the same from day before so teacher can focus on concept)
3.4F; 3.4H
5. D-5 x $3=15$ Note: Students should realize that numbers can be placed inside the circles and not just ' 3 ' objects.
3.4E; 3.4F
6. B-7 (Students need to count dots for MORE than 2.)

## Part 3 - Reflection and Conceptual Understanding

## Learning Opportunity 58

Part 1 - Numeracy Development
TEKS

1. a.) $>$
b.) <
2. a.) $\mathrm{D}-\$ 1.06$
b.) $\mathrm{K}-\$ 67.00$
3. a.) Given
b.) $1 \mathrm{TTH} ; 5 \mathrm{Th} ; 8 \mathrm{H} ; 0 \mathrm{~T} ; 9 \mathrm{O}=\underline{15,809}$
2.8C; 3.3A; 3.3E; 3.3H
3.4A; 3.4C
3.2A; 4.2B

## Part 2 - Application Practice


3.4E; 3.4F; 3.4H
5. $B-4 \times 9=36$
3.4E; 3.4F

7. C $-4,051$

## Part 3-Reflection and Conceptual Understanding

Student Answer: $3 \times 6=18 ; \quad 6 \times 3=18 ; \quad 18 \div 6=3 ; \quad 18 \div 3=6$
3.4D; 3.4E; 3.4F; 3.4J

## Learning Opportunity 59

## Part 1 - Numeracy Development

1. a.) Given
b.) 40
c.) 40
d.) 90
3.4F; 3.4G
2. $\mathbf{C}-\$ 75.68$
3. a.) $7 \mathrm{TTH} ; \mathbf{0 T h} ; \mathbf{0 H} ; 7 \mathrm{~T} ; 70=\underline{70,077}$
b.) $9 \mathrm{TTH} ; 5 \mathrm{Th} ; 4 \mathrm{H} ; 0 \mathrm{~T} ; \quad 0 \mathrm{O}=\underline{95,400}$
3.4A; 3.4C
3.2A; 4.2B

Part 2-Application Practice
4. a.) 3
b.) 4
c.) 9
d.) 4
g.) 9
h.) 4
3.4F
e.) 3
f.) 4
6. $B-991$ (e.g. $452+539=\underline{991})$
7. B-391

## Part 3-Reflection and Conceptual Understanding

Student Answer: $2 \times 7=14 ; \quad 7 \times 2=14 ; \quad 14 \div 7=2 ; \quad 14 \div 2=7$
3.4E; 3.4F; 3.4J; 3.6C

Learning Opportunity 60

## Part 1 - Numeracy Development

1. a.) 40
b.) 90
c.) 90
d.) 80
3.4F; 3.4G
2. $A-\$ 44.67$
3. a.) $1 \mathrm{TTH} ; \mathbf{0 ~ T h} ; 4 \mathrm{H} ; 0 \mathrm{~T} ; \mathbf{0}=\underline{10,400}$
b.) $8 \mathrm{TTH} ; 1 \mathrm{Th} ; 4 \mathrm{H} ; 5 \mathrm{~T} ; 3 \mathrm{O}=\underline{81,453}$
3.4F
c.) 6
d.) 2
4. a.) 4
b.) 5
g.) 8
h.) 4
5. A-20 $\mathbf{~} \mathbf{4 = 8 0}$ (Note: Problem 1d is this equation computational, and Part 3 below is this model as well.)
3.4E; 3.4F; 3.4G
6. $\mathbf{C} \mathbf{- 5 0}$ (e.g. $10 \times 5=\underline{\mathbf{5 0}}$ ) (Note: Draw a book case with the number of 10 circled on each shelf -5 groups of 10 each)
7. B-2 (e.g. $6 \div 3=\underline{2}$ ) (Note: Draw 6 ribbons in 3 columns so students can visualize 2 ribbons in each row or column)
3.4F; 3.4K

## Part 3-Reflection and Conceptual Understanding

Student Answer: $4 \times 20=80 ; 80 \div 4=20$; (Note: In the Group Model, these are the only two equations that PHYSICALLY work. 3.4E; 3.4F; 3.4G There are not 20 groups. There are only 4 groups.)
3.4J; 3.5B

## Learning Opportunity 61

## Part 1 - Numeracy Development

1. a.) 160
b.) 150
c.) 140
d.) 150
2. $\mathbf{D}-\$ 85.92$
3. a.) $3 \mathrm{TTH} ; 0 \mathrm{Th} ; 0 \mathrm{H} ; 0 \mathrm{~T} ; 9 \mathrm{O}=\underline{30,009}$
b.) $6 \mathrm{TTH} ; \quad 0 \mathrm{Th} ; \quad 3 \mathrm{H} ; \quad 0 \mathrm{~T} ; \quad 7 \mathrm{O}=\underline{60,307}$
3.4F; 3.4G
3.4A; 3.4C

TEKS

Part 2 - Application Practice
4. a.) 5
b.) 3
c.) 9
d.) 3
g.) 6
h.) 8
5. $\mathrm{C}-30 \times 5=$ ?
f.) 7
6. $A-5$ (e.g. $15 \div 3=\underline{\mathbf{5}}$ ) (Note: Draw 15 items, separate into 3 equal groups. How many in each group? 5.)
3.4E; 3.4F; 3.4G
7. D-60 (e.g. $20 \times 3=60$ ) (Note: Draw 3 circles with the number 20 in each circle.)

## Part 3 - Reflection and Conceptual Understanding

Student Answer: 4 is an addend; 6 is an addend; 10 is the sum. 13 is the minuend; 8 is the subtrahend; 5 is the difference. Vocabulary Review

## Learning Opportunity 62

## Part 1 - Numeracy Development

TEKS

1. a.) 120
b.) 100
c.) 280
d.) 200
3.4F; 3.4G
2. a.) Cube
b.) Triangular Prism
c.) Rectangular Prism
3. a.) Given
b.) fifty thousand five hundred sixty-nine
c.) thirteen thousand forty-six
3.2A; 4.2B

## Part 2 - Application Practice

4. a.) 6
b.) 9
c.) 8
d.) 8
e.) 9
f.) 3
g.) 6
h.) 9
3.4F
5. 2a is a Cube. Faces: 6; Vertices: 8; Edges: 12 (Note: circle the vertices - then count; check mark on each edge - then count; Make an " $X$ " on each face - then count.)
6. $\mathbf{C}-\mathbf{\$ 3 . 0 5}$ (e.g. $0.75+1.20=1.95 ; \quad 5.00-1.95=\$ 3.05$ )
7. $B-\underline{90}$ (e.g. $30 \times 3=\underline{90}$ games)
3.4F; 3.4G; 3.4K

## Part 3 - Reflection and Conceptual Understanding

Student Answer: 3 is a factor; 8 is a factor, and 24 is the product 42 is the dividend, 7 is the divisor, 6 is the quotient. Vocabulary Review

## Learning Opportunity 63

## Part 1 - Numeracy Development

1. a.) 350
b.) 240
c.) 160
d.) 400
2. a.) Triangular Prism
b.) ninety thousand nine
c.) Triangular Pyramid
c.) nineteen thousand three hundred seven
3.4F; 3.4G
3. a.) seventy-six thousand forty
3.2A; 4.2B

TEKS

## Part 2 - Application Practice

4. a.) 9
b.) 8
c.) 6
d.) 6
3.4F
e.) 7
f.) 5
g.) 8
h.) 6
5. 2a is a Triangular Prism. Faces: 5; Vertices: 6; Edges: 9 (Note: circle the vertices - then count; check mark on each edge -

- then count; Make an " $X$ " on each face - then count.)

6. $A-\$ 4.91$ (e.g. $10.00-5.09=\$ 4.91)$
7. $C-\underline{9}$ (e.g. $72 \div 8=\underline{9}$ )

## Part 3 - Reflection and Conceptual Understanding

Student Answer: The equations mean the same thing. They are different ways of writing a division problem. Note: The 'under the house' $\quad 3.4 \mathrm{~F}$ is used to work division problems with larger dividend problems - long division process.

## Learning Opportunity 64

## Part 1 - Numeracy Development

1. a.) 480
b.) 560
2. a.) Triangular Pyramid
b.) Triangular Prism
3. a.) twenty-five thousand three hundred forty-nine
c.) 420
d.) 810
3.4F; 3.4G
c.) Rectangular Prism
b.) eighty-one thousand two
c.) fifteen thousand five hundred eight
3.2A; 4.2B

## Part 2 - Application Practice

4. C-15 minutes
5. 2a is a Triangular Pyramid. Faces: 4; Vertices: 4; Edges: 6
6. $C-\$ 13.19$ (e.g. $8.32+4.87=\$ 13.19)$
7. $\mathbf{C}-\underline{10}(\mathrm{e} . \mathrm{g} .5 \times 2=\underline{10})$
3.4F; 3.5B; 3.6C

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Yes, this is correct. A pyramid has a single point where many edges intersect/meet. Show Giza Pyramids as a reaL 3.1F; 3.1G life example of a pyramid.

## Learning Opportunity 65

## Part 1 - Numeracy Development

1. a.) Hexagonal Prism
b.) Cube
c.) Rectangular Prism
d.) Pentagonal Prism
e.) Square Pyramid
2. a.) fourteen thousand three hundred one
b.) forty thousand six hundred seventy
c.) twenty-two thousand twenty-two
3.2A; 4.2B

## Part 2 - Application Practice

3. C-25 minutes
2.9G; 3.7C
4. $\mathbf{A}-\underline{10}$ (e.g. hexagonal prism is in 1.a); (edges $=18$ ( 3 groups of 6 ); faces $=8$; hence, $18-8=\underline{\mathbf{1 0}}$ )
5. $\mathbf{A}-\mathbf{\$ 0 . 9 1}$ (e.g. $25+25+10+10+10+5+6=91$ cents $=\mathbf{\$ 0 . 9 1})$
6. $B-\underline{21}$ (e.g. $7 \times 3=\underline{\mathbf{2 1}}$ )
3.4F; 3.5B; 3.6C

Part 3-Reflection and Conceptual Understanding
Student Answer: Missing Factor(s) in a multiplication equation is the same thing as a divisor OR a quotient in a division equation.
3.4F; 3.4J

## Learning Opportunity 66

## Part 1 - Numeracy Development

1. a.) Pentagonal Prism
b.) Triangular Prism
c.) Square/Rectangular Pyramid
d.) Hexagonal Prism
e.) Octagonal Prism
2. a.) $2 \frac{1}{2}, 3 \frac{1}{2}$
b.) $13 / 4$
2.9G; 3.7C
3.4A; 3.6A
3.4A; 3.7B
3.4F; 3.5B; 3.6C

## Part 3 - Reflection and Conceptual Understanding

Student Answer: This is an excellent means to review the concept each day - Spaced Repetition. The teacher should observe the.
3.6C; 3.7B students that struggle for a quick visual comprehension check until they understand the difference between perimeter and area. Note: "Peri" means "around" and "meter" means "measure." Hence, perimeter means "measure around."

## Learning Opportunity 67

## Part 1 - Numeracy Development

1. a.) Octagonal Prism
b.) Pentagonal Prism
c.) Rectangular Prism
d.) Triangular Pyramid
e.) Hexagonal Prism
2. a.) $1 / 2 ; 2 \frac{1}{2} ; 3^{1 / 2}$
b.) $2 / 4 ; 3 / 4 ; 11 / 4 ; 13 / 4$
Note: Count the SPACES between any two whole numbers on the number line to determine the division of the number line (i.e. halves, fourths, eighths)

TEKS

## Part 2 - Application Practice

3. A - $\mathbf{2 5}$ minutes
2.9G; 3.7C
4. A - $\underline{\mathbf{2}}$ (e.g. both prisms are in problem 1); (Pentagonal Prism's vertices $=10$ ); Rectangular Prism' vertices $=2$ ); $(10-8=\underline{\mathbf{2}})$ 3.4A; 3.6A
5. $\mathbf{C}-\underline{\mathbf{1 8}}(\mathrm{e} . \mathrm{g} .4+5+4+5=\underline{\mathbf{1 8}})$ Note: 2 groups of 8 as well for parallelograms $-2 \times(4+5)=\underline{\mathbf{1 8}}$. Hence, $2 \times(\mathrm{L}+\mathrm{W})$. 3.4A; 3.7B
6. $B-\underline{12}$ (e.g. $3 \times 4=\underline{12})$
3.4F; 3.5B; 3.6C

## Part 3 - Reflection and Conceptual Understanding

Student Answer: 12 is the dividend; 2 is the divisor, 6 is the quotient or answer in a division equation.

## Learning Opportunity 68

## Part 1 - Numeracy Development

1. a.) $1 \frac{112}{2} ; 21 / 2 ; 31 / 2$
b.) $2 / 4 ; 3 / 4 ; 11 / 4 ; 13 / 4$
$\begin{array}{ll}\text { 2. a.) } 1 \text { of } 2 \text { shaded } & \text { b.) All } 4 \text { of } 4 \text { shaded }=1 \text { whole }\end{array}$
$\begin{array}{ll}\text { 2. a.) } 1 \text { of } 2 \text { shaded } & \text { b.) All } 4 \text { of } 4 \text { shaded }=1 \text { whole }\end{array}$
c.) $5 / 8 ; 7 / 8$
c.) 1 whole shaded and 2 of 4 shaded d.) 3 of 8 shaded

Part 2-Application Practice
3. $C-\underline{4}$ (e.g. $4+9=13$ or $13-9=4$ ) Note:

Students should see the equation. Thicker horizontal lines show on L-Shaped polygon
3.4A; 3.6D meant to indicate connection. Teacher should show students how ' $X$ ' line on polygon can be transferred horizontally to align with ' 9 ' line to make one ' 13 ' parallel line.

5. $\mathrm{D}-\underline{\mathbf{1 6}}$ (e.g. $3+5+3+5=\underline{16}$ Note: 2 groups of 8 as well for parallelograms $-2 \times(3+5)=\underline{\mathbf{1 6}}$. Hence, $2 \times(\mathrm{L}+\mathrm{W})$.
3.4F; 3.5D; 3.6C

## Part 3-Reflection and Conceptual Understanding

Student Answer: 20 is the dividend; 5 is the divisor, 4 is the quotient or answer in a division equation.

## Part 1 - Numeracy Development

1. a.) $1 / 2 ; 1 \frac{1}{2} ; 21 / 2 ; 31 / 2$;
b.) $2 / 4 ; 3 / 4 ; 1 \frac{1}{4} ; 1 \frac{2}{4} ; 13 / 4$
c.) $2 / 8 ; 4 / 8 ; 5 / 8 ; 6 / 8 ; \quad 7 / 8$
2. a.) 1 whole shaded and 1 of 2 shaded
b.) 2 of 4 shaded
c.) 1 whole shaded and 1 of 4 shaded $\quad$ d.) 6 of 8 shaded

## Part 2 - Application Practice

3. $\mathbf{C}-\underline{\mathbf{7}}$ (e.g. $8+7=15$ or $15-8=\underline{\mathbf{7}}$ ) Note: Students should see the equation. Thicker horizontal lines show on L-Shaped polygon
3.4A; 3.6D meant to indicate connection. Teacher should show students how ' 8 ' line on polygon can be transferred horizontally to align with ' $X$ ' line to make one ' 15 ' parallel line.
4. Yes. Yuan has $\$ 8.05$ cents $>\$ 8.00$ (e.g. $\$ 5.00+\$ 1.00+\$ 1.00+(2 \times 0.25)+(4 \times 0.10)+(3 \times 0.05)=\$ 8.05)$
5. $\mathrm{D}-\underline{\mathbf{1 6}}(\mathrm{e} . \mathrm{g} .2+6+2+6=\underline{\mathbf{1 6}}) \quad$ Note: 2 groups of 8 as well for parallelograms $-2 \times(2+6)=\underline{\mathbf{1 6}}$. Hence, $2 \times(\mathrm{L}+\mathrm{W})$.
6. $\mathbf{C}-\underline{4}$ (e.g. $24 \div 6=\underline{\mathbf{Y}}=\underline{4}$ )
3.4F; 3.5D; 3.6C

## Part 3-Reflection and Conceptual Understanding

Student Answer: Word problems vary. Example: Joe has 10 pennies. He places them in 2 equal groups. How many pennies are in

## Learning Opportunity 70

## Part 1 - Numeracy Development

1. a.) $1 / 2 ; 11 / 2 ; 21 / 2 ; 31 / 2$
b.) $1 / 4 ; 2 / 4 ; 33 ; 11 / 4 ; 12 / 4 ; 13 / 4$
c.) $1 / 8 ; 2 / 8 ; 3 / 8 ; 4 / 8 ; 5 / 8 ; 6 / 8 ; 7 / 8$
2. a.) 1 of 2 shaded
b.) 3 of 4 shaded
c.) 1 whole shaded and 3 of 4 shaded
d.) 7 of 8 shaded

Part 2 - Application Practice
3. $\mathbf{B}-\underline{12}$ (e.g. $7+5=\underline{12})$

Note: Students should see the equation. Thicker horizontal lines show on L-Shaped polygon
3.4A; 3.6D meant to indicate connection. Teacher should show students how ' 7 ' line on polygon can be transferred horizontally to align with ' 5 ' line to make a summed ' $X$ ' parallel line.
4. B-30 minutes
5. $\mathbf{C}-\underline{\mathbf{2 0}}$ (e.g. $3+7+3+7=\underline{\mathbf{2 0}}$ ) Note: 2 groups of 10 as well for parallelograms $-2 \times(3+7)=\underline{\mathbf{2 0}}$. Hence, $2 \times(\mathrm{L}+\mathrm{W})$.
3.4A; 3.7C
3.4A; 3.7B
6. $\mathbf{B}-\underline{\mathbf{3}}(\mathrm{e} . \mathrm{g} .9 \div \mathbf{T}=\underline{\mathbf{T}}=\underline{\mathbf{3}})$ Note: Perfect Square. $3 \times 3=9$.
3.4F; 3.5D; 3.6C

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Problems will vary. Example: Ronny has 16 shirts. He places them in four equal piles. How many shirts in each pile?

## Learning Opportunity 71

## Part 1 - Numeracy Development

1. a.) $1 / 2 ; 1 \frac{1}{2} ; 21 / 2 ; 31 / 2$
b.) $11 / 4 ; \quad 2 / 4 ; \quad 3 / 4 ; 1 \frac{1}{4} ; \quad 12 / 4 ; 13 / 4$
c.) $1 / 8 ; 2 / 8 ; 3 / 8 ; 4 / 8 ; 5 / 8 ; 6 / 8 ; 7 / 8$
2. a.) 1 whole shaded and 1 of 2 shaded
b.) 2 of 4 shaded
$\begin{array}{lll}\text { c.) } & 1 \text { whole shaded and } 2 \text { of } 4 \text { shaded } & \text { d.) } 6 \text { of } 8 \text { shaded }\end{array}$

## Part 2-Application Practice

3. $\mathrm{A}-\underline{\mathrm{X}=13 ;} \mathrm{Y}=5(\mathrm{e} . \mathrm{g} .8+5=\underline{13}$ and $2+3=\underline{5})$ Note: Students should see the equation. Thicker horizontal lines show on L-Shaped 3.4A; 3.6D as well as double vertical lines meant to indicate direction connections. Teacher should show students how ' $X$ ' and ' $Y$ ' lines on polygon can be transferred horizontally or vertically to align to create one single line - so $8+5=\mathrm{X}$ or 13 and $2+5=\mathrm{Y}$ or 5 .
4. D - $\underline{35}$ minutes
5. $B-\underline{15}(\mathrm{e} . \mathrm{g} .2+6+3+4=\underline{15})$
3.4A; 3.7B
6. $\mathbf{D}-\underline{\mathbf{5}}$ (e.g. $25 \div \mathbf{Y}=\underline{\mathbf{Y}}=\underline{\mathbf{5}} ; 5 \times 5=25$ ) A square $\underline{\mathbf{S}}$ a perfect square. With small amounts of practice, students understand.
3.4F; 3.5D; 3.6C

## Part 3-Reflection and Conceptual Understanding

Student Answer: Problems vary. Example: A teacher separated 18 children into 3 equal groups. How many students were in each group? 3.1F;
3.1G; 3.4F; 3.4K

## Learning Opportunity 72

## Part 1 - Numeracy Development

1. a.) $1 / 4 ; 2 / 4 ; 3 / 4 ; 1 \frac{1}{4} ; 1 \frac{2}{4} ; 13 / 4$
b.) $1 / 8 ; 2 / 8 ; 3 / 8 ; 4 / 8 ; 5 / 8 ; 6 / 8 ; 7 / 8$
c.) $1 / 2 ; 1 \frac{1}{2} ; 21 / 2 ; 31 / 2$
2. a.) 2 of 4 shaded
b.) 1 whole shaded and 2 of 4 shaded
c.) 5 of 8 shaded
d.) 1 of 2 shaded

## Part 2 - Application Practice

3. $\mathbf{B}-\underline{X=6 ;} \mathbf{Y}=\mathbf{4}(\mathrm{e} . \mathrm{g} .14-8=\underline{\mathbf{6}}$ and $7-3=\underline{4}) \underline{\text { Note: }}$ Students should see the equation. Thicker horizontal lines show on L-Shaped 3.4A; 3.6D as well as double vertical lines meant to indicate direction connections. Teacher should show students how ' $X$ ' and ' $Y$ ' lines on polygon can be transferred horizontally or vertically to align to create one single line - so $8+6=14$ and $3+4=7$.
4. C - 45 minutes
3.4A; 3.7C
5. $\mathbf{B}-\underline{18}$ (e.g. $4+2+2+3+2+5=\underline{18})$ Note: Students should make tick marks on EACH square's outside edge to count correctly.
3.4A; 3.7B
6. D - $\underline{14}$ (e.g. count the squares)
3.4F; 3.5D; 3.6C

## Part 3 - Reflection and Conceptual Understanding

Student Answer: Separating L-Shaped polygons are difficult at first for students, but with practice and paper manipulatives they become 3.4A; 3.4F; adept. The teacher should model L-Shaped dimensions (problem 6) and separating L-Shaped hexagons until students 3.4K; 3.6D can perform this task with relative ease. A mini-lesson (spaced repetition) each morning prior to the core lesson affords students with sufficient mastery repetition and focused practice. $A=5, B=15$, Hence, L-Shaped Hexagon's Area = 20.

## Learning Opportunity 73

## Part 1 - Numeracy Development

1. a.) $1 / 8 ; 2 / 8 ; 3 / 8 ; 4 / 8 ; 5 / 8 ; 6 / 8 ; 7 / 8$
b.) $1 / 2 ; 1 \frac{1}{2} ; 2 \frac{1}{2} ; 21 \frac{1}{2}$
c.) $1 / 4 ; 2 / 4 ; 3 / 4 ; 11 / 4 ; 1 \frac{2}{4} ; 13 / 4$
2. a.) 3 of 8 shaded
b.) 1 whole shaded and 1 of 2 shaded
c.) 3 of 4 shaded
d.) 1 whole shaded and 3 of 4 shaded
3.7A

Part 2 - Application Practice
3. $\mathbf{C}-\underline{\mathrm{X}}=\mathbf{3}$; $\mathbf{Y}=\mathbf{2}(\mathrm{e} . \mathrm{g} .8+\underline{\mathbf{3}}=11$ or $11-8=\underline{\mathbf{3}})$ and $(\underline{\mathbf{2}}+3=5$ or $5-\mathbf{3}=\underline{\mathbf{2}})$
3.4A; 3.6D
4. $\mathrm{D}-\$ 19.54$
5. A - $\underline{\mathbf{2 2}}($ e.g. $2+7+4+4+2+3=\underline{\mathbf{2 2}})$
6. D $-\underline{\mathbf{2 2}}$ (e.g. $2 \times 3=6$ and $4 \times 4=16$; Hence, $6+16=\underline{\mathbf{2 2}}$ ) (Alternative: $4 \times 7=28$ and $2 \times 3=6$; Hence, $28-6=22$ )

## Part 3 - Reflection and Conceptual Understanding

Student Answer: C = 4, D = 12, Hence, L-Shaped Hexagon's Area = $\underline{16}$
3.4A; 3.4F; 3.4K; 3.6D

## Learning Opportunity 74

Part 1 - Numeracy Development

1. a.) $50 ; 150 ; 250 ; 350$
b.) $470 ; 480 ; 490 ; 510 ; 520 ; 530$
c.) $967 ; 969 ; 971 ; 972 ; 973$
2. a.) $>$
b.) <
3.3A; 3.3F

TEKS

Part 2 - Application Practice

3.4A; 3.6D
4. $\mathrm{A}-\underline{141}$ (e.g. $409-268=\underline{141})$
5. $\mathrm{C}-\underline{\mathbf{2 6}}$ (e.g. $4+7+4+2+2+3+2+2=\underline{\mathbf{2 6}}$ )
6. $\mathbf{B}-\underline{\mathbf{1 6}}$ (e.g. $2 \times 2=4$ and $3 \times 4=12$; Hence, $4+12=\underline{16}$ ) (Alternative: $4 \times 5=20$ and $2 \times 2=4$; Hence, $20-4=\underline{16}$ ) 3.4F; 3.6D; 3.6C
(Alternative: Students count the squares inside the polygon)

## Part 3 - Reflection and Conceptual Understanding

Student Answer: G = 8, H = 2, Hence, L-Shaped Hexagon's Area $=\underline{10}$
3.4A; 3.4F; 3.4K; 3.6D

## Learning Opportunity 75

## Part 1 - Numeracy Development

1. a.) $970 ; 980 ; 990 ; 1,010 ; 1,020 ; 1,030$
b.) 1,$100 ; 1,200 ; 1,300 ; 1,500 ; 1,600 ; 1,700$
c.) 10,$500 ; 11,500 ; 12,500 ; 13,000 ; 13,500$;
2. a.) $=$
b.) <
3.3A; 3.3F

## Part 2 - Application Practice

3. $B-\underline{X}=9 ; Y=\mathbf{6}$ (e.g. $\underline{9}+5=14$ or $14-5=\underline{9})$ and $(2+\underline{\mathbf{6}}=8$ or $8-2=\underline{\mathbf{6}})$
4. $B-\underline{90}$ (e.g. $10 \times 9=\underline{\mathbf{9 0}})$
3.4F; 3.4G; 3.6K
5. $\mathrm{C}-\underline{\mathbf{3 0}}(\mathrm{T}=3 ; 7-4=3)(\mathrm{e} . \mathrm{g} .7+2+4+6+(\mathrm{T}=3)+8=\underline{\mathbf{3 0}})$
3.4A; 3.7B

## Part 3 - Reflection and Conceptual Understanding

Student Answer: J=(7x2=14)K=(3x2=6) Hence, L-Shaped Hexagon's Area = $14+6=\underline{\mathbf{2}}$
3.4A; 3.4F; 3.4K; 3.6D

## Learning Opportunity 76

## Part 1 - Numeracy Development

1. а.) 27,$000 ; 28,000 ; 30,000 ; 31,000 ; 32,000$;
b.) 52,$700 ; 52,800 ; 53,000 ; 53,100 ; 53,200 ; 53,300$;
c.) 85,$000 ; 86,000 ; 87,000 ; 87,500 ; 88,000$;
2. a.) $=$
b.) >
3.3A; 3.3F

Part 2 - Application Practice
3. $\mathbf{A}-\underline{2 a}$ (e.g. $2 \mathrm{a}: 2 / 4=3 / 6$ )
4. $\mathbf{B}-\underline{269}$ (e.g. $405-136=269$ )
5. a.) $5: 15$
b.) $5: 45$
6. $A-\underline{34}(R=6 ; 10-4=6)(e . g .10+2+(R=6)+5+4+7=\underline{34})$

## Part 3 - Reflection and Conceptual Understanding

Student Answer: $\mathbf{L}=(7 \times 3=21) \quad \mathbf{M}=(3 \times 4=12) \quad$ Hence, L-Shaped Hexagon's Area $=21+12=\underline{33}$
3.4A; 3.4F; 3.4K; 3.6D

## Learning Opportunity 77

## Part 1 - Numeracy Development

1. a.) $6 \frac{1}{2}$; $8 \frac{1}{1} 2$;
b.) $3 \frac{3}{4} ; 4 \frac{1}{4} ; 4 \frac{2}{4}$;
c.) $8 \frac{3}{8} ; \quad 8 \frac{5}{8} ; \quad 8 \frac{6}{8} ; \quad 8 \frac{7}{8}$;
2. a.) Given
b.) $608=(6 \times 100)+(0 \times 10)+(8 \times 1)$ OR $(6 \times 100)+(8 \times 1)$
art 2 - Application Practice
3. B-12
3.4F; 3.5D; 3.6C
4. $B-\underline{8}$ (e.g. $32 \div 4=\underline{8}$ )
5. а.) $10: 50$
b.) $11: 30$
3.4F, 3.4K
6. $\mathbf{B}-\underline{30}(\mathrm{e} . \mathrm{g} .10 \times 1=10 ; 4 \times 5=20)(10+20=30)$ Note: $L \times W-$ Sts. use highlighter to designate the correct dimensions. $\quad 3.4 F ; 3.6 C ; 3.6 \mathrm{D}$

## Part 3 - Reflection and Conceptual Understanding

Student Answer: $\mathbf{N}=(10 \times 4=40) \quad \mathbf{P}=(5 \times 4=20) \quad$ Hence, L-Shaped Hexagon's Area $=40+20=\underline{\mathbf{6 0}}$
3.4A; 3.4F; 3.4K; 3.6D

## Learning Opportunity 78

## Part 1 - Numeracy Development

1. a.) $12 \frac{1}{2} ; 131 / 2 ; 15 \frac{1}{2}$;
b.) $17 \frac{2}{4} ; \quad 17 \frac{3}{4} ; \quad 18 \frac{1}{4} ; \quad 18 \frac{2}{4}$;
c.) $23 \frac{2}{8} ; \quad 23 \frac{3}{8} ; \quad 23 \frac{5}{8} ; \quad 23 \frac{6}{8} ; \quad 23 \frac{7}{8}$;
2. a.) $2,087=(2 \times 1,000)+(0 \times 100)+(8 \times 10)+(7 \times 1)$
b.) $5,690=(5 \times 1,000)+(6 \times 100)+(9 \times 10)+(0 \times 1)$

## Part 2 - Application Practice

6. $B-\underline{54}($ e.g. $6 \times 4=24 ; 10 \times(?=3)=30)(24+30=\underline{54}) \quad$ Note: $L \times W-$ use highlighter to designate the correct dimensions. $\quad 3.4 F ; 3.6 C ; 3.6 D$
3.4F; 3.5D; 3.6C
3.4F; 3.4K
2.9G; 3.7C

Part 3 - Reflection and Conceptual Understanding
Student Answer: Teacher rework some with examples both ways...on group model...circle both groups....multiply both groups $\times 2$

## Learning Opportunity 79

## Part 1 - Numeracy Development

1. a.) $11 \frac{1}{8} ; \quad 11 \frac{2}{8} ; \quad 11 \frac{3}{8} ; \quad 11 \frac{4}{8} ; \quad 11 \frac{5}{8} ; \quad 11 \frac{6}{8} ; \quad 11 \frac{7}{8} ;$
b.) $4 \frac{112}{2} ; ~ 51 / 2 ; 71 / 2$;
c.) $7 \frac{1}{4} ; \quad 7 \frac{2}{4}$; $\quad 7 \frac{3}{4} ; \quad 8 \frac{1}{4} ; \quad 8 \frac{2}{4}$;
2. a.) Given
b.) 1 pair of parallel lines
c.) 3 pair of parallel lines
d.) 0 pair of parallel lines
3.6B

Part 2 - Application Practice
3. B-16
3.4F; 3.5D; 3.6C
4. $\mathbf{D}-\underline{\mathbf{3}}$ (e.g. $15 \div 5=\underline{\mathbf{3}}$ )
5. D - All models represent $4 \times 5=20$
6. $\mathbf{C}-\underline{\mathbf{3 5}}(\mathrm{X}=3 ; \mathrm{Y}=2) \quad(\mathrm{e} . \mathrm{g} .3 \times 5=15 ; 10 \times 2=20)(15+20=\underline{\mathbf{3 5}})$
3.4F; 3.5D; 3.6C

Part 3-Reflection and Conceptual Understanding
Student Answer: 2 groups of $(\underline{\mathbf{2}}+\underline{4})=$ Perimeter $=2 \times(\underline{\mathbf{6}})=\underline{\mathbf{1 2}} ; \quad(\underline{\mathbf{2}}+\underline{\mathbf{4}})+(\underline{\mathbf{2}}+\underline{4})=$ Perimeter $=\underline{\mathbf{1 2}}$

## Learning Opportunity 80

## Part 1 - Numeracy Development

1. a.) $8 \frac{1}{4}$ : $\quad 8^{2} \frac{1}{4} ; \quad 8 \frac{3}{4} ; \quad 9 \frac{1}{4} ; \quad 9^{2 / 4} ; \quad 93 / 4 ;$
c.) $2 \frac{112}{2} ; \quad 31 / 2 ; \quad 4 \frac{1}{2} ; \quad 5 \frac{1}{2}$;
$\begin{array}{ll}\text { 2.) Given } & \text { b.) } 1 \text { vertex }\end{array}$
c.) 0 vertices
d.) 2 vertices

## Part 2 - Application Practice

d.

A
2.9G; 3.7C
3.4F; 3.4K
3.3A; 3.3F
b.)


B-4; 32 (e.g. $12 \div 3=\underline{4} ; 4 \times 8=\underline{32}$ )
3. a.)

b.)

b.


