The Physical and Conceptual Meaning of DIVISION using Whole Numbers

Pedagogical Tips and Student Practice

(3rd through 6th Grades)

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Introduction and Pedagogical Recommendations

This mathematics unit focuses on the physical and conceptual meaning of **division** ***using whole numbers***. Unlike addition and multiplication, the division process does not possess a commutative property. However, using **Formative Loop** and **"Find the Missing Factor"** student practice sheets, memorization of division facts is not an issue for students. Find(ing) the Missing Factor process turns division fact memorization into a commutative process, as is the case with addition and multiplication. Those resource sheets are included in the Appendix of this mathematics unit for easy implementation in the classroom.

The enclosed student practice sheets are designed to be implemented efficiently and effectively each day – via a warm-up or spaced repetition pedagogical technique. This resource is a self-defined "off the shelf" curricular resource, whereas a classroom teacher can implement the content as well as the student practice sheet in subsequent days with little to no preparation time. There is a threshold number of student practice page versions for division skill practice to ensure that students exceed the number of repetitions required to achieve long-term mastery of the content – or include a version as homework practice.

It is important to note that the curricular resource sheets can be efficiently implemented every day. A teacher can provide a 5-minute spaced repetition or warm-up session using the enclosed resources before the onset of the core lesson. The student practice pages are divided into halves giving a teacher the option to use the resource for a quick warm-up, transitional activity, or homework assignment extending the days of daily practice with their students.

Section 1 covers the **division** of single digit – basic division math fact whole numbers (e.g., 40 ÷ 8 = 5).

Section 2 covers the **division** of single digit divisor with a *possible* remainder (e.g., 26 ÷ 6 = 4 – R2).

Section 3 covers the **division** of 2- and 3-digit dividends with a *possible* remainder (e.g., 158 ÷ 5 = 31 – R3).

Appendix: *Multiples Practice* and *Find the Missing Factor* student resource practice opportunities – Student Mastery of content is demonstrated in 5-minute assessment session (after sufficient student practice).

The only prerequisite skills are whole number lines and single digit multiplication facts. (subtraction/addition assist, too). **Note:** Math facts in all four operations must be learned to automaticity – 3 second recall per fact.

The enclosed pedagogical task is not difficult. It only needs an effective, efficient and consistent means of delivery. Again, students **must** ingrain their single digit multiplication facts as well as their division math facts to mastery. I recommend using a paper pencil WRITING system that breaks the task down into manageable smaller tasks for the students that may struggle with a mixed assessment of 100 individual math facts. In doing so, in as little as 10 days using Formative Loop, 70 to 90 percent of the students will have mastered the process. The remaining students usually require focused intervention and accountability. Use the Find the Missing Factor Resource in conjunction with Formative Loop to move more of the last 20 to 30 percent to automaticity. Moreover, the writing aspect is key to success in these types of learning tasks. Unfortunately, a digital program will not yield the same results. Of course, it is easier for the teacher to use a computer program, but the teacher cannot expect 98 percent of their students to master the their math fact task. The most effective global numeracy program is **Formative Loop**, and as of this writing, it only costs 9 dollars a student for an entire school year. However, the numeracy program includes both math processing skills as well as math facts. It is recommended to ask the commercial vendor (Formative Loop) for double runs of 5 minutes each for one math fact numeracy task and one processing skill task per day. If this daily program is pressed, results will follow that make a difference in test results and student understanding. This numeracy program also has a skill resource library for grades 1 through 8. Thus, teachers will never be searching the internet for skill resources or support resources needed in their daily instruction or nightly homework.

It is also recommended that an interested educator desiring high student achievement outcomes read, *"Math Fact Mastery – Easy to Do!"* and *"Writing – An Overlooked Learning Modality."* If an educator has questions, please feel free to email, telephone or text. Contact information as well as both documents are free downloads and are located at the website address provided in the footer below. All communication is free for classroom teachers and administrators desiring to be positive difference makers in children's lives.

Blaine Helwig

Division Modeling – Pedagogical Tips

Teacher Pedagogical Tips:

1.) Provide students with sufficient practice, as needed. If some students are struggling, slow the process and pace, as needed. Most importantly, use small division equations when beginning, so students can focus on the concept and not get lost in the size of the numbers – 8 ÷ 2, 6 ÷ 3, 4 ÷ 1, 9 ÷ 3, 4 ÷ 2, etc. Focus on **division vocabulary** as well.

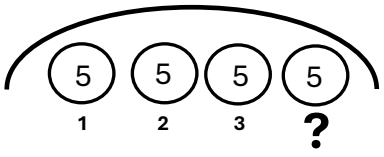
2.) Students lacking in multiples mastery will struggle more than they need to. Practice this numeracy skill with your students. Begin with 2's, 10's and 5's. Slowly, until mastered. Then, proceed with 3's, 4's, 6's, 7's, 8's and 9's. There is a multiples homework & practice sheet resource in the Appendix at the end of this packet. Students must be confident and possess the ability to skip count adeptly. If a teacher systematically practices this skill set, all the students will know it. There is a tremendous impact in numeracy development with skip counting mastery in an arithmetic environment.

3.) Provide math fact modeling practice, daily in short sessions, so students have sufficient exposure to the content **PRIOR** to using the student resource pages in this unit.

For example, a teacher can (quickly) draw division models on the white board and require students to write the division equation. ***Practice as is needed.***

Modified Group Model:

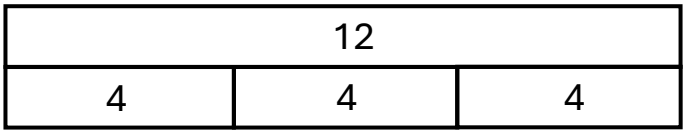
Note: Most versatile division and multiplication model.



Students write: 20 ÷ 4 = 5

These types of models and exercises allow the teacher to use larger division equations (e.g., 231 ÷ 41 = ?). **(Dividend, Divisor and Quotient – emphasize)**

Linear Model:



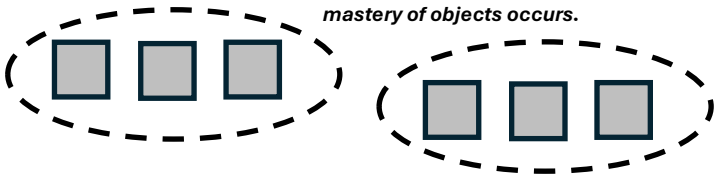
Students write: 12 ÷ 3 = 4

12 can be divided into 3 EQUAL groups of 4 – count the 3 equal groups of 4

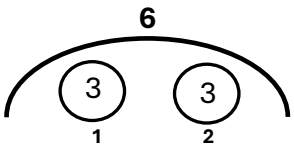
Students write: 6 ÷ 2 = 3

Group Model:

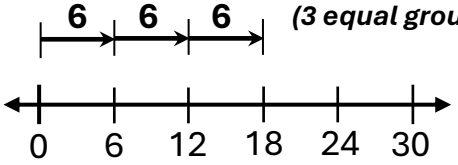
Note: Substitute numbers (3, in this case) after student mastery of objects occurs.



It is STRONGLY recommended to require students to draw and practice the model below to prepare for its use with larger division equations.



Number Line Model:



(3 equal groups of 6)

Students write: 18 ÷ 3 = 6

Note: it is easiest for young students when the teacher always stresses that the **divisor** is the number of equal groups.

Division Modeling – Pedagogical Tips

Teacher Pedagogical Tips (Continued):

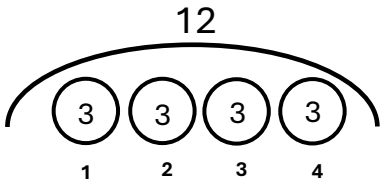
- Teacher writes:

  "12 separated (divided) into 4 equal groups"

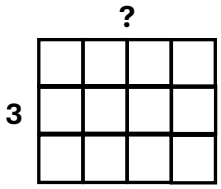
Students respond with written answer:

12 ÷ 4 = 3

and students should also draw the model quickly.



- Teacher draws **area** grid model:



Students respond with written answer:

12 ÷ 3 = 4

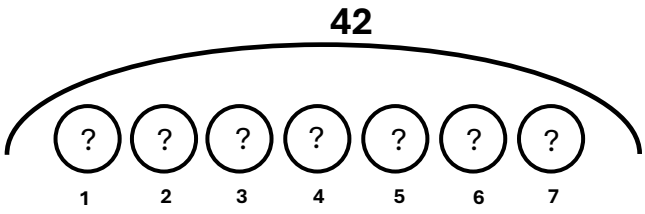
4.) The tremendous advantage of knowing the 4 math fact models (addition, subtraction, multiplication and division) to automaticity assists students in understanding the physical meaning of the operation; however, it also provides a benefit in problem solving applications.

For instance, when given a traditional word or story problem, the student can draw the model of the operation and quickly realize – **as adults do** – that it is a division problem (or an addition, subtraction or multiplication story problem). For example,

Bill borrowed 42 dollars from his mother. He paid her back in seven equal payments every Friday. How much did John pay his mother each Friday?

Students draw the model of what is physically occurring in the word/story problem:

Note: The model in multiplication – students are trying to compute the product (dividend in division). It is easy for them to recognize the two different problem types.



The model clearly indicates the problem is a division model. (**I.E., DIVIDEND IS GIVEN**.)

Thus, **42 ÷ 7 = 6.**

Bill gave her 6 dollars each Friday when he paid her.

Note: For larger divisors, use an ellipse (i.e., **...**) to only make 4 total groups in the model. See Section 3 examples on the ease of drawing this model for large division equations.

5.) If the teacher practices multiples (i.e., skip counting) to mastery with their students, they will 'own' that important numeracy skill. If the teacher practices math fact models of all four operations with **Formative Loop**, students will understand and apply them with confidence and ease. Whenever a teacher consistently practices content and holds pupils accountable, then students will ingrain that material to long-term memory. Unfortunately, whatever is not sufficiently practiced, students will **not** master. The educator must know that it is important!

Note: The white papers or downloadable documents listed on page ***i*** provide pedagogical sequencing of multiples practice and other math fact mastery tips; thus, long-term mastery of math facts and important numeracy skills can be achieved by **ALL** students.

Section 1

Basic Division Math Fact – Physical and Conceptual Meaning of Division (Whole Numbers)

Student Practice Resource

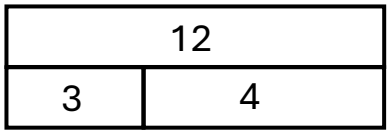
Basic Division Math Fact Modeling Practice – V1

Directions: Identify the correct model of the division equation shown below.
Choose three (3) correct answers.

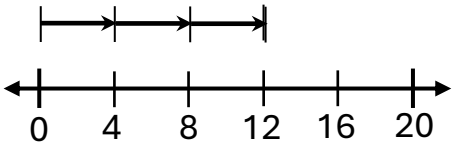
12 ÷ 3 = ?

A. Five equal groups of three

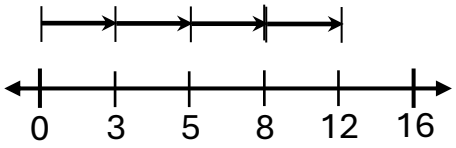
B.



C.



D.



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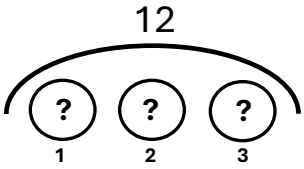
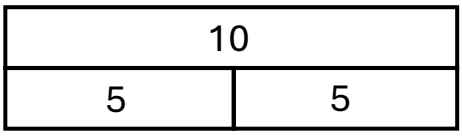


F.

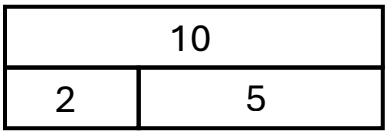
Directions: Identify the correct model of the division equation shown below.
Choose four (4) correct answers.

10 ÷ 2 = ?

A.



B.



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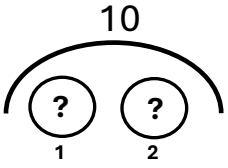

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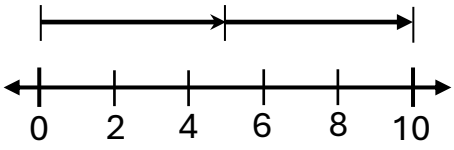

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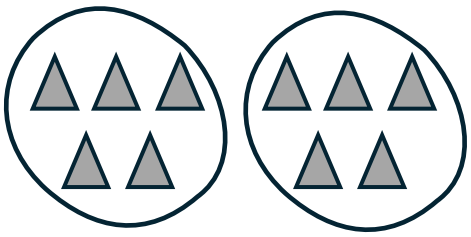


F. 2 + 2 + 2 + 2 = 8

Basic Division Math Fact Modeling Practice – V1

Directions: Identify the correct model of the division equation shown below. Choose three (3) correct answers.

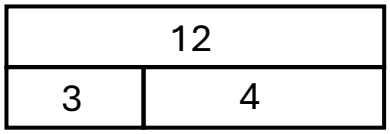
ANSWER KEY

12 ÷ 3 = ?

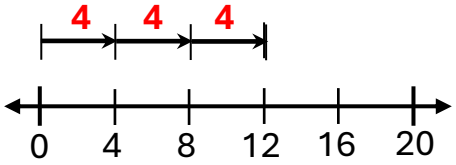
A. Five equal groups of three

Note: Students should label the whole number line or equal spaces.

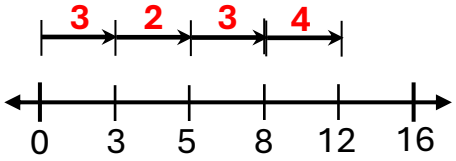
B.



C. ✓

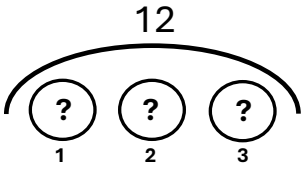


D.



Note: Stress 12 is divided or separated into 3 equal groups of 4 each. Does the model represent this situation?

E. ✓



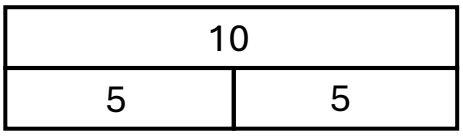
F. ✓

Directions: Identify the correct model of the division equation shown below. Choose four (4) correct answers.

Note: Students should be able to skip count (multiples) of numbers 1 through 12. Begin with 2's, 10's and 5's. Practice until mastered. Then, 3's and 4's, etc.

10 ÷ 2 = ?

A. ✓



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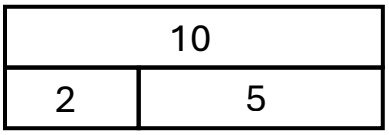
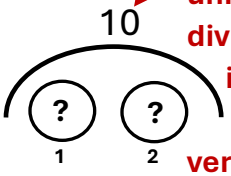
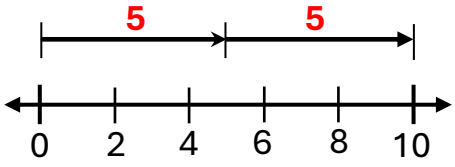


C. ✓

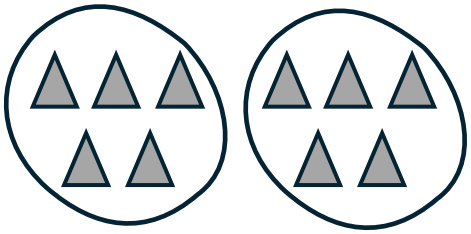


Note: In multiplication, the product is unknown, but the dividend is given in division. That is why it is easy for kids to recognize division versus multiplication in this model.

D. ✓



E. ✓



F.

$2 + 2 + 2 + 2 = 8$

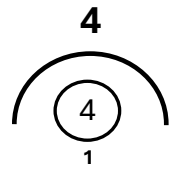
Note: Students should label the whole number line or equal spaces.

Basic Division Math Fact Modeling Practice – V2

Directions: Identify the correct model of the division equation shown below. Choose four (4) correct answers.

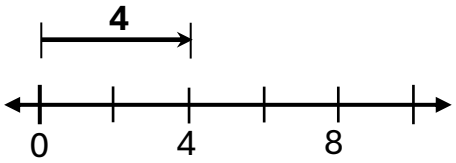
$$1\overline{)4}\quad 4$$

A.



B.

C.



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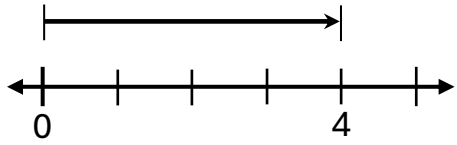
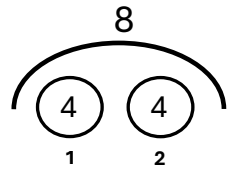


E.



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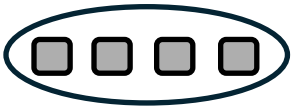
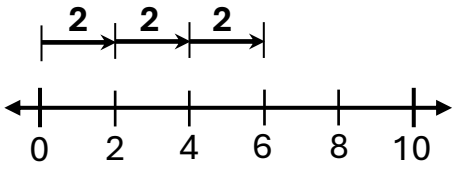
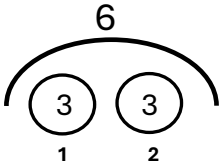


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.

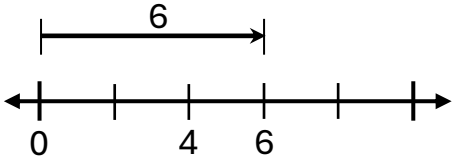


$6 \div 1 = 6$

$3\overline{)6}\quad 2$



$6 \div 2 = 3$



$3\overline{)9}\quad 3$

Basic Division Math Fact Modeling Practice – V2

Directions: Identify the correct model of the division equation shown below.
Choose four (4) correct answers.

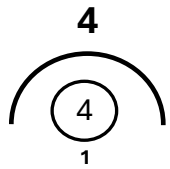
ANSWER KEY

$$1\overline{)4}\quad 4$$

Note: 1 equal group of 4

Note: Students should be able to skip count (multiples) of numbers 1 through 12. Practice daily until mastered.

✓ **A.**



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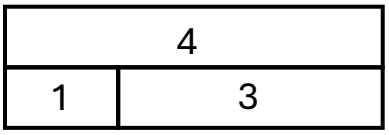
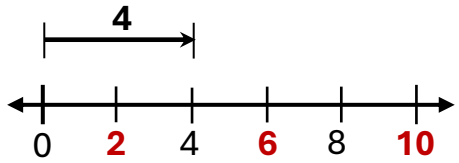
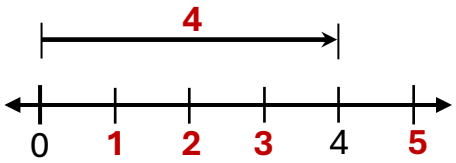


Addition model: 1 + 3 = 4

✓ **C.**

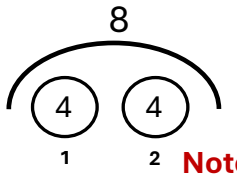


✓ **D.**



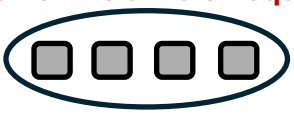
Note: Stress 1 equal group of 4 equals 4. Question to students: Do the models reflect the mathematical situation of the division equation?

E.



Note: 2 equal groups of 4 – (8 ÷ 2 = 4)

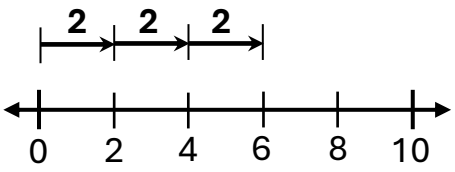
✓ **F.**

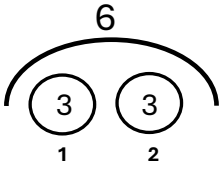


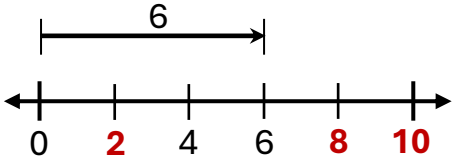
Note: 1 equal group of 4 = 4

Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.

Note: Focus on division vocabulary – Dividend, Divisor and Quotient







$$6 \div 1 = 6$$

$$3\overline{)6}\quad 2$$

$$6 \div 2 = 3$$

$$3\overline{)9}\quad 3$$

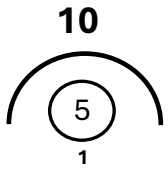
1 x 6 = 6

Basic Division Math Fact Modeling Practice – V3

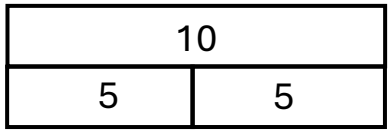
Directions: Identify the correct model of the division equation shown below. Choose three (3) correct answers.

$$2\overline{)10}\quad 5$$

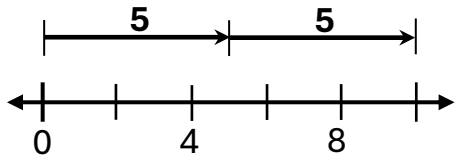
A.



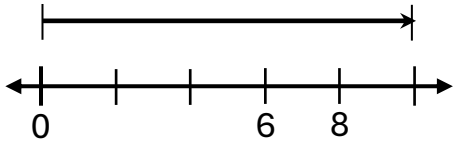
B.



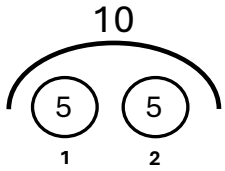
C.



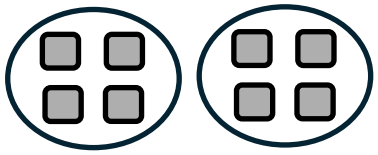
D.



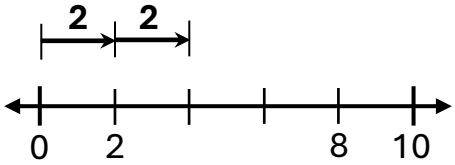
E.

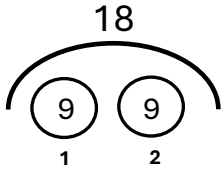


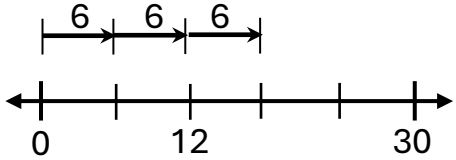
F.



Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.







$$2\overline{)4}\quad 2$$

$$18 \div 2 = 9$$

$$18 \div 3 = 6$$

$$3\overline{)15}\quad 5$$

Basic Division Math Fact Modeling Practice – V3

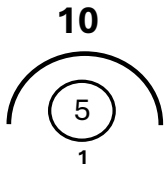
Directions: Identify the correct model of the division equation shown below.
Choose three (3) correct answers.

ANSWER KEY

$$2\overline{)10}\quad \text{quotient } 5$$

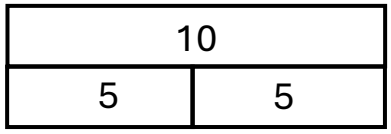
Note: Students should be able to skip count (multiples) of numbers 1 through 12. Practice daily until mastered.

A.

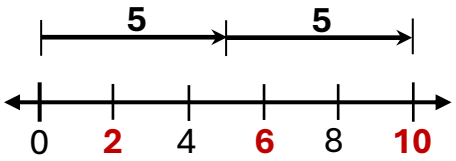


Note: Nonsensical.

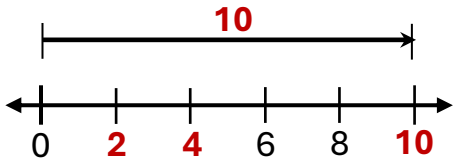
✓ B.



✓ C.

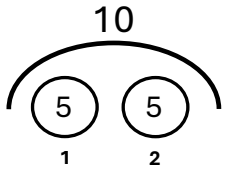


D.

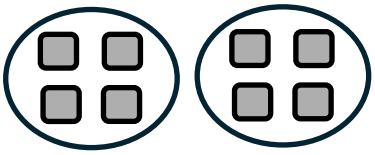


Note: Students must complete the number lines.

✓ E.

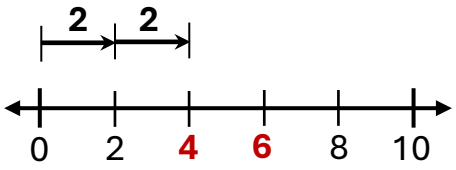


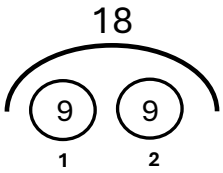
F.

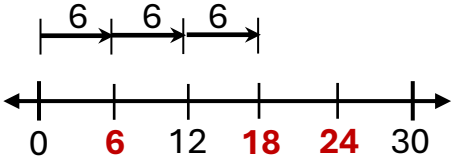


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.

Note: Focus on division vocabulary – Dividend, Divisor and Quotient







$18 \div 2 = 9$

$$2\overline{)4}\quad \text{quotient } 2$$

$18 \div 3 = 6$

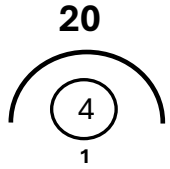
$$3\overline{)15}\quad \text{quotient } 5$$

Basic Division Math Fact Modeling Practice – V4

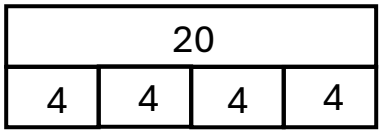
Directions: Identify the correct model of the division equation shown below. Choose two (2) correct answers.

$$4\overline{)20} = 5$$

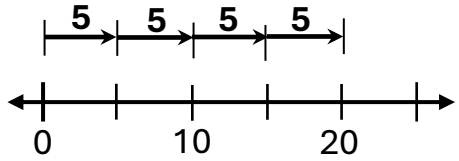
A.



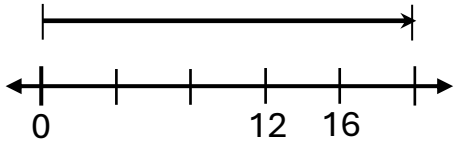
B.



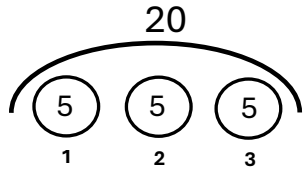
C.



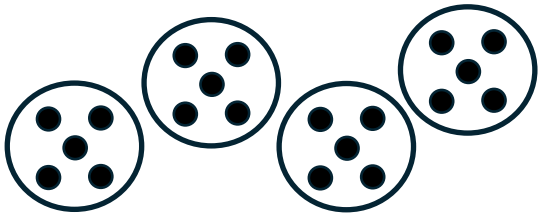
D.



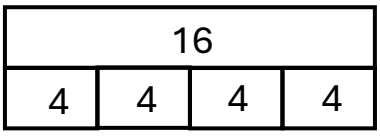
E.

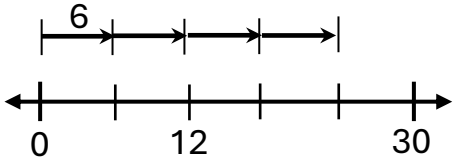


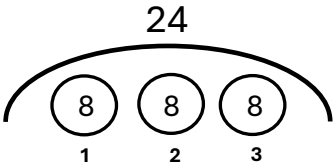
F.

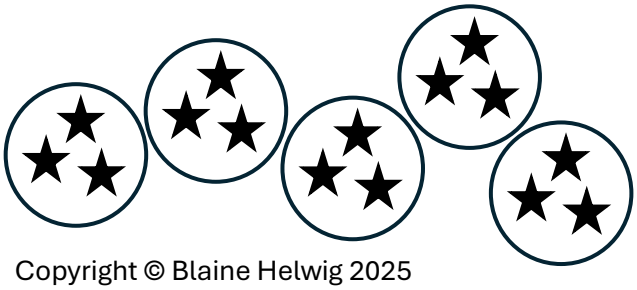


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.









$15 \div 5 = 3$

$$4\overline{)24} = 6$$

$24 \div 3 = 8$

$$4\overline{)16} = 4$$

Basic Division Math Fact Modeling Practice – V4

Directions: Identify the correct model of the division equation shown below.
Choose two (2) correct answers.

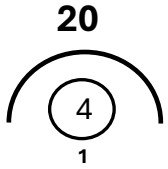
ANSWER KEY

Note: Dividend is 20.
Divisor equals 4.
Quotient is 5.

$$4\overline{)20}\quad 5$$

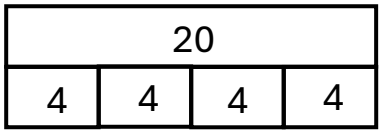
Note: Students must know the vocabulary in both print form and recognize the quantities in an equation.

A.

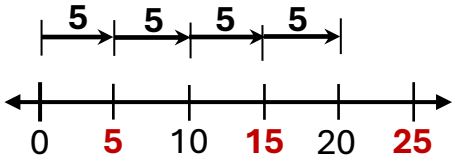


Note: Students are trying to find 4 equal groups of 5 with a dividend of 20.

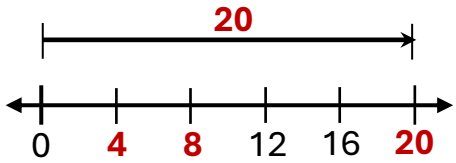
B.



C. ✓

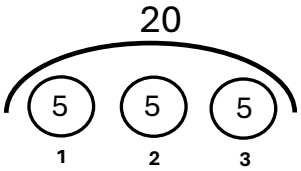


D.

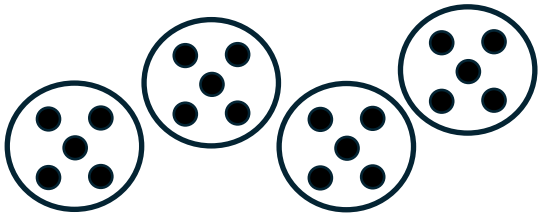


Note: Students must complete the number lines.

E.

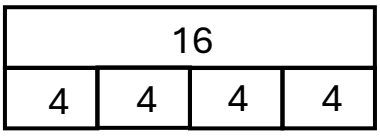


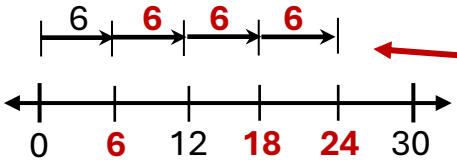
F. ✓

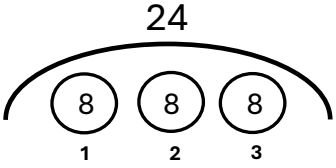


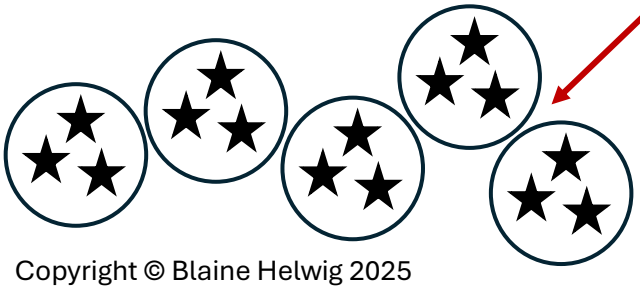
Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.

Note: Focus on division vocabulary – Dividend, Divisor and Quotient









$15 \div 5 = 3$

$4\overline{)24}\quad 6$

$24 \div 3 = 8$

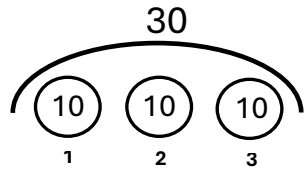
$4\overline{)16}\quad 4$

Basic Division Math Fact Modeling Practice – V5

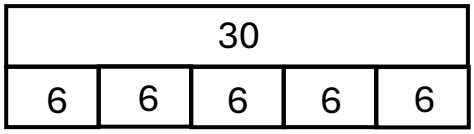
Directions: Identify the correct model of the division equation shown below. Choose three (3) correct answers.

$$5\overline{)30} = 6$$

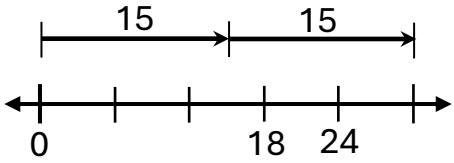
A.



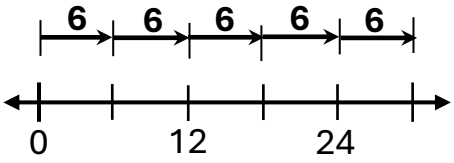
B.



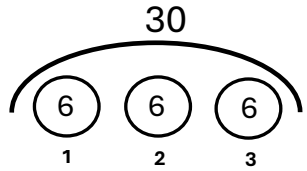
C.



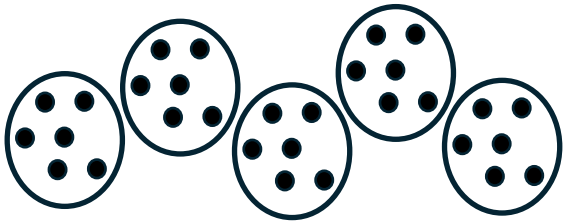
D.



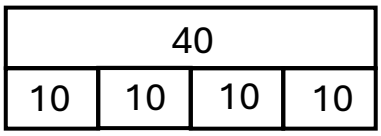
E.

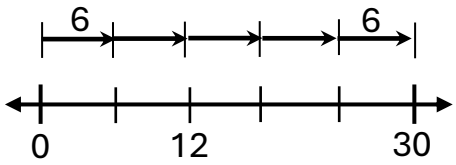


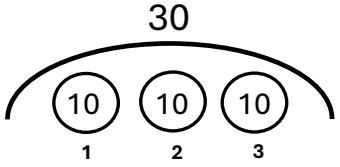
F.

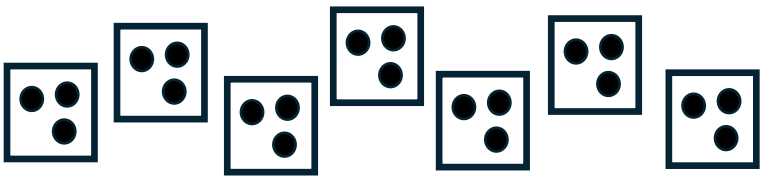


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.









$$3\overline{)30} = 10$$

$$21 \div 7 = 3$$

$$40 \div 4 = 10$$

$$5\overline{)30} = 6$$

Basic Division Math Fact Modeling Practice – V5

Directions: Identify the correct model of the division equation shown below.
Choose three (3) correct answers.

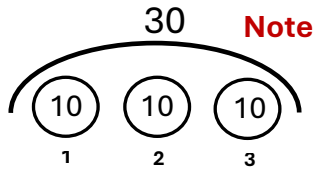
ANSWER KEY

Note: Dividend is 30.
Divisor equals 5.
Quotient is 6.

$5\overline{)30}$ = 6

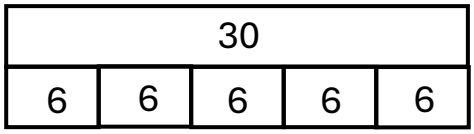
Note: Students must know the vocabulary in both print form and recognize the quantities in an equation.

A.

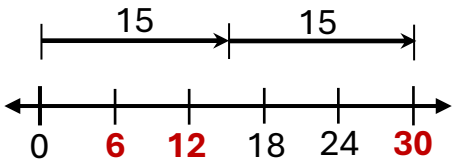


Note: Students are trying to find 5 equal groups of 6 with a dividend of 30.

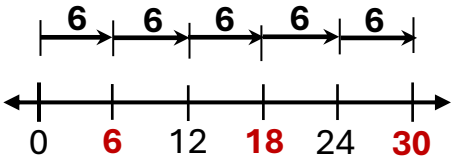
B. ✓



C.

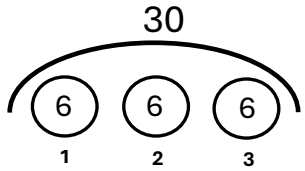


D. ✓

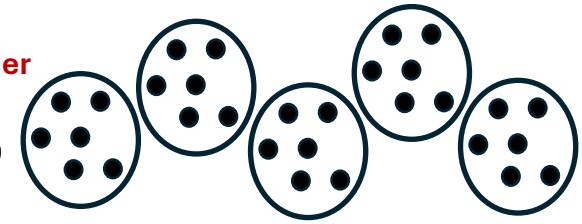


Note: Students must complete the number lines.

E.

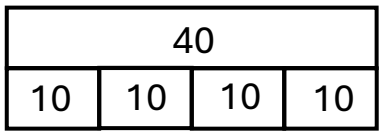


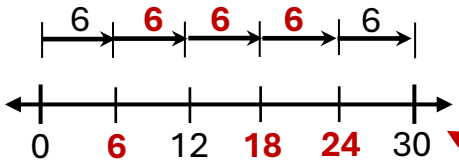
F. ✓

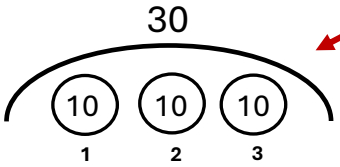


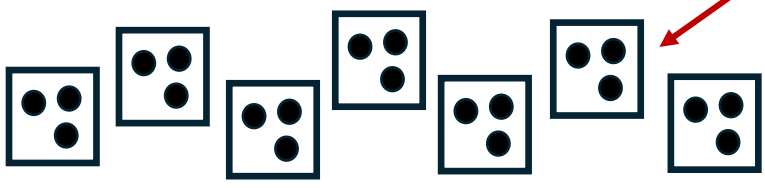
Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow.

Note: Focus on division vocabulary – Dividend, Divisor and Quotient









$3\overline{)30}$ = 10

21 ÷ 7 = 3

40 ÷ 4 = 10

$5\overline{)30}$ = 6

Basic Division Math Fact Modeling Practice – V6

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

A.

$$5\overline{)30}\quad 6$$

30 is called the _____

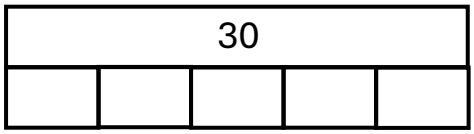
The 5 is called the _____

The 6 is called the _____

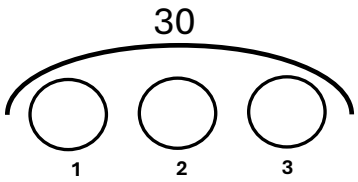
Word Bank

quotient divisor dividend

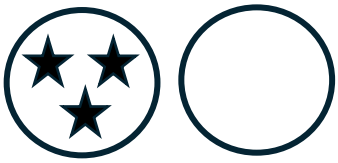
B. **30 ÷ 5 = 6** → **Correctly complete the division model.**



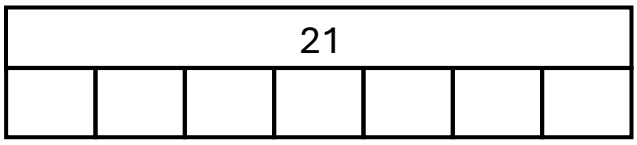
C. **30 ÷ 3 = 10** → **Correctly complete the division model.**

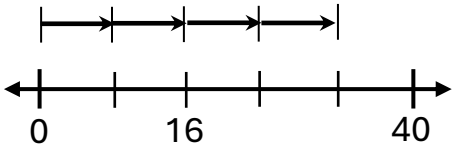


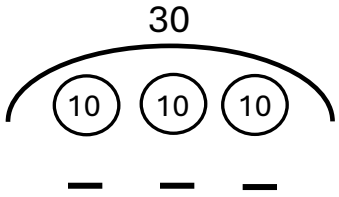
D. **6 ÷ 2 = 3** → **Correctly complete the division model.**



Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**







$$3\overline{)30}\quad 10$$

12 ÷ 3 = 4

21 ÷ 7 = 3

$$4\overline{)32}\quad 8$$

Basic Division Math Fact Modeling Practice – V6

Directions: Write the correct names of the division equation, or complete the model that matches the division equation. **ANSWER KEY**

A. $5\overline{)30}$ = 6

30 is called the **dividend**

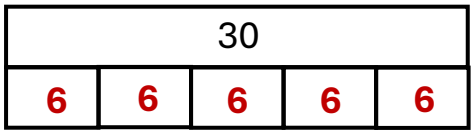
The 5 is called the **divisor**

The 6 is called the **quotient**

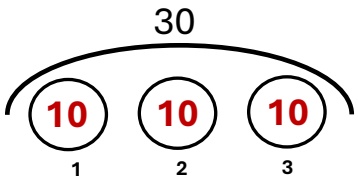
Word Bank

quotient divisor dividend

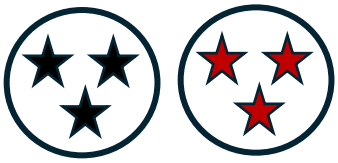
B. 30 ÷ 5 = 6 → Correctly complete the division model.



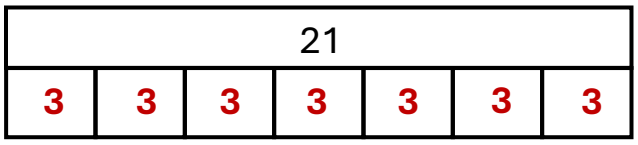
C. 30 ÷ 3 = 10 → Correctly complete the division model.

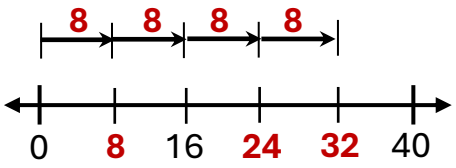


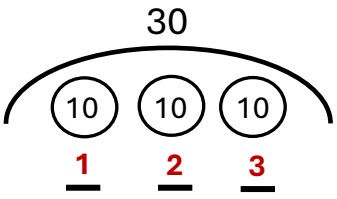
D. 6 ÷ 2 = 3 → Correctly complete the division model.

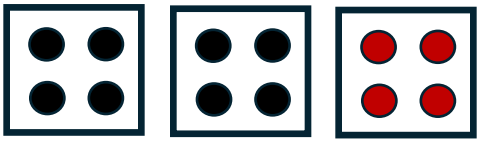


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









Note: With consistent practice, students can easily do this useful numeracy skill.

$3\overline{)30}$ = 10

12 ÷ 3 = 4

21 ÷ 7 = 3

$4\overline{)32}$ = 8

Note: Students will not ingrain content to long-term memory without threshold practice.

Basic Division Math Fact Modeling Practice – V7

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

A. $7\overline{)63}$ = 9

The 9 is called the _____

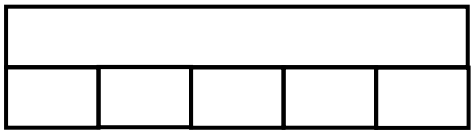
The 7 is called the _____

63 is called the _____

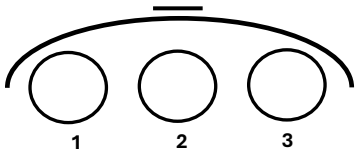
Word Bank

quotient divisor dividend

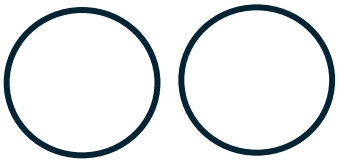
B. $40 \div 5 = 8$ → Correctly complete the division model.



C. $3\overline{)12}$ = 4 → Correctly complete the division model.

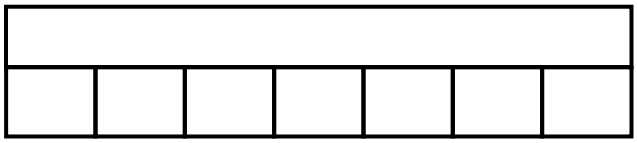


D. $8 \div 2 = 4$ → Correctly complete the division model.

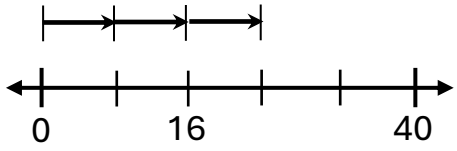


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**

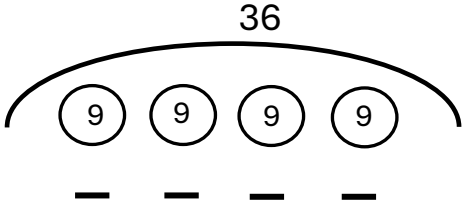
$4\overline{)36}$ = 9



$24 \div 3 = 8$



$15 \div 5 = 3$



$7\overline{)42}$ = 6

Basic Division Math Fact Modeling Practice – V7

Directions: Write the correct names of the division equation, or complete the model that matches the division equation. **ANSWER KEY**

A. $7\overline{)63} = 9$

The 9 is called the **quotient**

The 7 is called the **divisor**

63 is called the **dividend**

Word Bank

quotient divisor dividend

B. $40 \div 5 = 8$ → Correctly complete the division model.

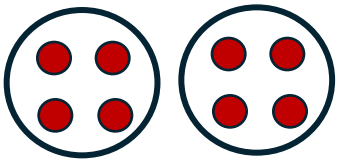
40				
8	8	8	8	8

C. $3\overline{)12} = 4$ → Correctly complete the division model.

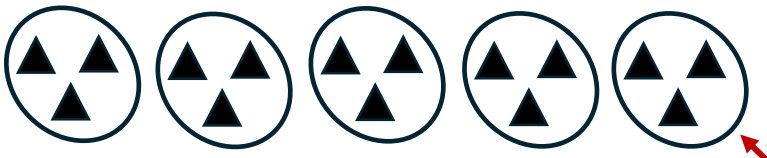
12

4 (1) 4 (2) 4 (3)

D. $8 \div 2 = 4$ → Correctly complete the division model.

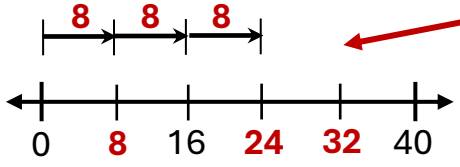


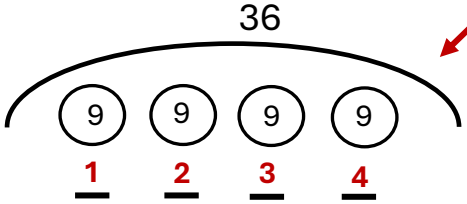
Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**



Note: With consistent practice, students can easily do this useful numeracy skill.

42						
6	6	6	6	6	6	6





$4\overline{)36} = 9$

$24 \div 3 = 8$

$15 \div 5 = 3$

$7\overline{)42} = 6$

Note: Students will not ingrain content to long-term memory without threshold practice.

Basic Division Math Fact Modeling Practice – V8

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

A. $56 \div 8 = 7$

The 8 is called the _____

The 7 is called the _____

56 is called the _____

Word Bank

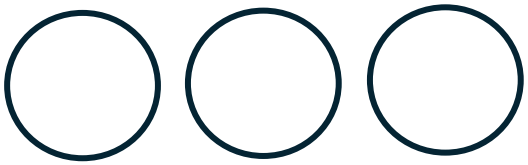
quotient **divisor** **dividend**

B. $3\overline{)12}$ $= 4$

Correctly complete the division model.

C. $3\overline{)15}$ $= 5$

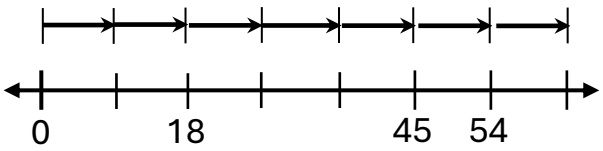
Correctly complete the division model.

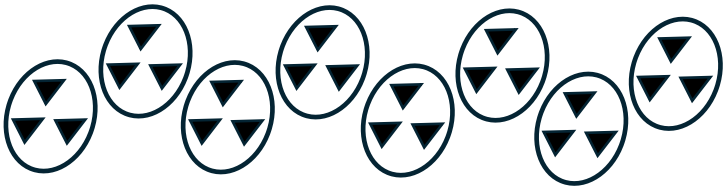


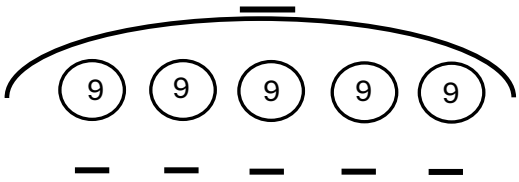
D. $10 \div 5 = 2$

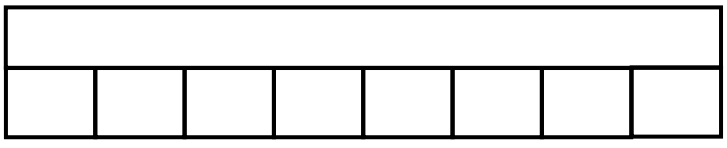
Correctly complete the division model.

Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









$5\overline{)45}$ $= 9$

$24 \div 8 = 3$

$64 \div 8 = 8$

$7\overline{)63}$ $= 9$

Basic Division Math Fact Modeling Practice – V8

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

ANSWER KEY

Word Bank

quotient divisor dividend

A. $56 \div 8 = 7$

The 8 is called the divisor

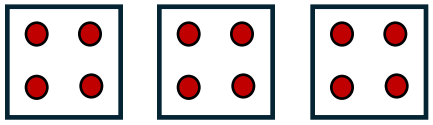
The 7 is called the quotient

56 is called the dividend

B. $3\overline{)12}$ $= 4$

Note: 12 items divided into 3 equal groups yields 4 items in each of the 3 groups.

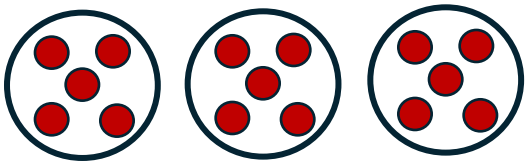
Correctly complete the division model.



C. $3\overline{)15}$ $= 5$

Note: 15 items divided into 3 equal groups yields 5 items in each of the 3 groups.

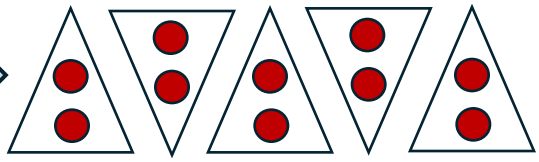
Correctly complete the division model.



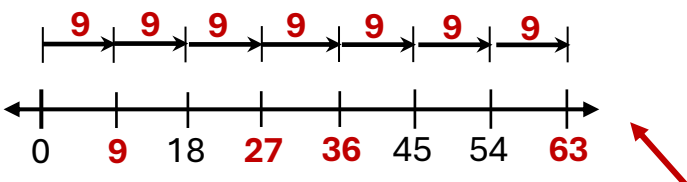
D. $10 \div 5 = 2$

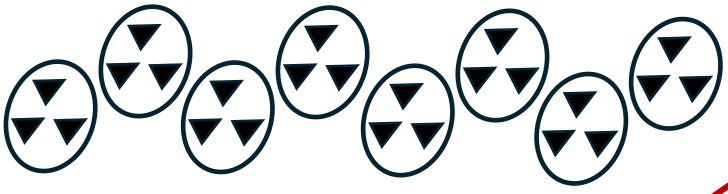
Note: 10 items divided into 5 equal groups yields 2 items in each of the 5 groups.

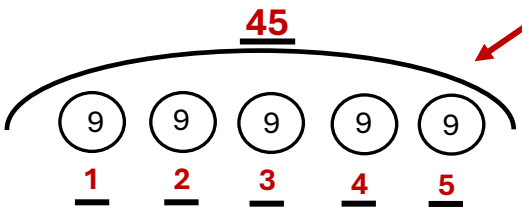
Correctly complete the division model.

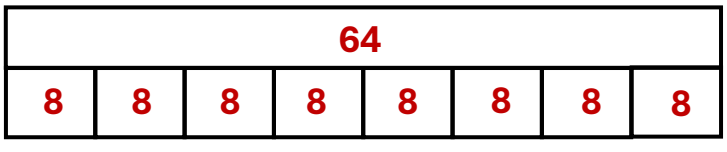


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









Note: With consistent practice, students can easily do this useful numeracy skill.

Note: Students will not ingrain content to long-term memory without threshold practice.

$5\overline{)45}$ $= 9$

$24 \div 8 = 3$

$64 \div 8 = 8$

$7\overline{)63}$ $= 9$

Basic Division Math Fact Modeling Practice – V9

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

Word Bank

quotient divisor dividend

A. $54 \div 6 = 9$

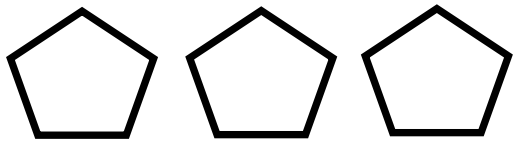
54 is called the _____

The 6 is called the _____

The 9 is called the _____

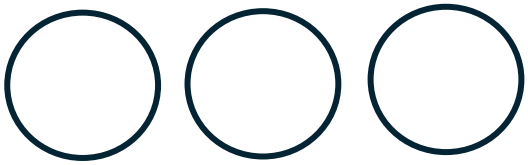
B. $3\overline{)30}$ $= 10$

Correctly complete the division model.



C. $3\overline{)21}$ $= 7$

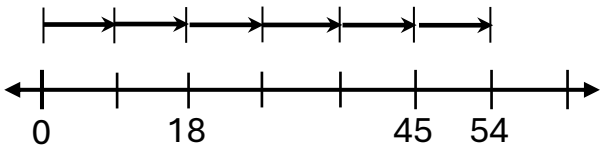
Correctly complete the division model.

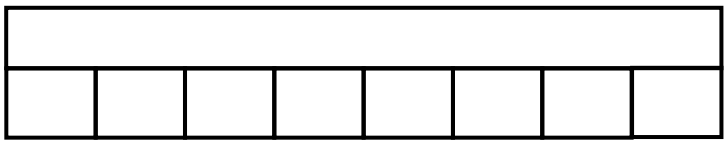


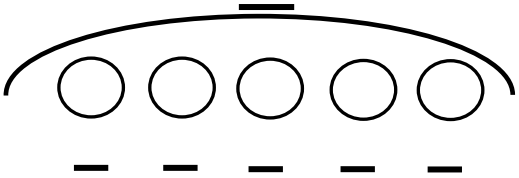
D. $20 \div 5 = 4$

Correctly complete the division model.

Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**







$5\overline{)45}$ $= 9$

$54 \div 6 = 9$

$42 \div 6 = 7$

$8\overline{)16}$ $= 2$

Basic Division Math Fact Modeling Practice – V9

Directions: Write the correct names of the division equation, or complete the model that matches the division equation. ***ANSWER KEY***

Word Bank

quotient divisor dividend

A. $54 \div 6 = 9$

54 is called the dividend

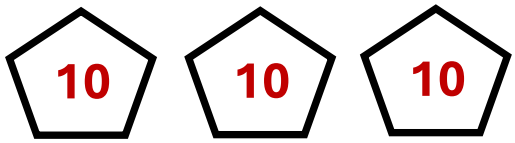
The 6 is called the divisor

The 9 is called the quotient

B. $3\overline{)30}$ $= 10$

Note: 30 items divided into 3 equal groups yields 10 items in each of the 3 groups.

Correctly complete the division model.



C. $3\overline{)21}$ $= 7$

Note: 21 items divided into 3 equal groups yields 7 items in each of the 3 groups.

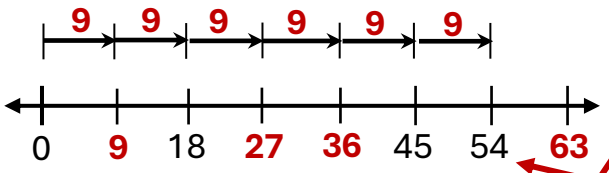
Correctly complete the division model.

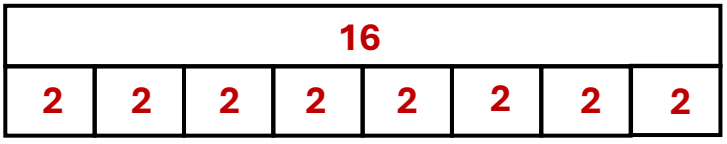
D. $20 \div 5 = 4$

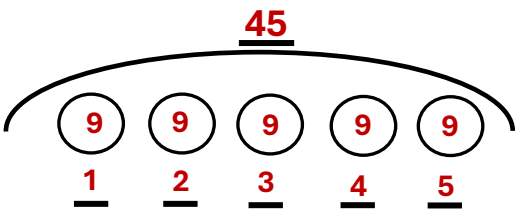
Note: 20 items divided into 5 equal groups yields 4 items in each of the 5 groups.

Correctly complete the division model.

Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**







Note: Use numbers instead of dots or stars in the group model once students understand the concept.

Note: Practice to threshold understanding, and the students will master division.

$5\overline{)45}$ $= 9$

$54 \div 6 = 9$

$42 \div 6 = 7$

$8\overline{)16}$ $= 2$

Basic Division Math Fact Modeling Practice – V10

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

Word Bank

sum	product
difference	quotient

A.

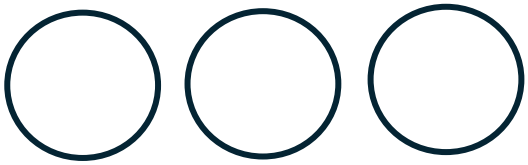
The answer in an addition equation: _____

The answer in a division equation: _____

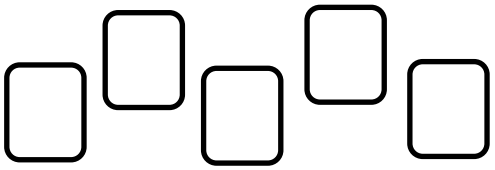
The answer in a multiplication equation: _____

B. $5\overline{)35}$ → **Correctly complete the division model.**

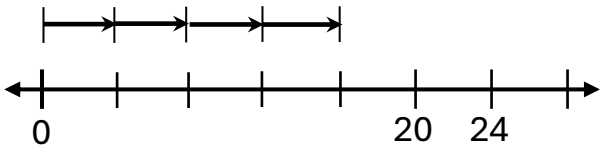
C. **33 ÷ 3 = ?** → **Correctly complete the division model.**

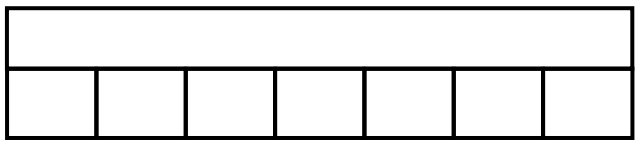


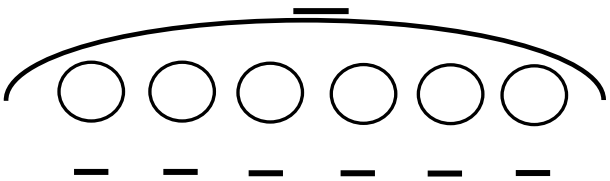
D. **40 ÷ 5 = ?** → **Correctly complete the division model.**



Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**







16 ÷ 4 = 4

63 ÷ 7 = 9

$6\overline{)42}$ (7)

$7\overline{)35}$ (5)

Basic Division Math Fact Modeling Practice – V10

ANSWER KEY

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

Word Bank

sum	product
difference	quotient

A.

The answer in an addition equation: **sum**

The answer in a division equation: **quotient**

The answer in a multiplication equation: **product**

B. $5\overline{)35}$ (?)

Note: 35 items divided into 5 equal groups yields 7 items in each of the 5 groups.

Correctly complete the division model.

C. 33 ÷ 3 = ?

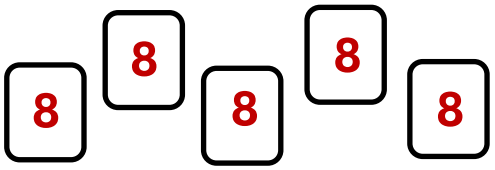
Note: 33 items divided into 3 equal groups yields 11 items in each of the 3 groups.

Correctly complete the division model.

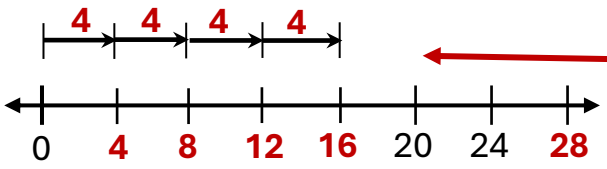
D. 40 ÷ 5 = ?

Note: 20 items divided into 5 equal groups yields 8 items in each of the 5 groups.

Correctly complete the division model.

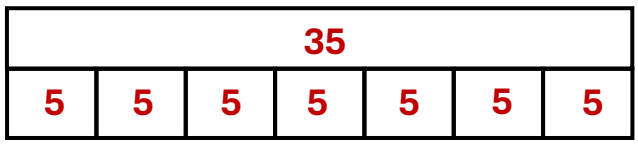


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**

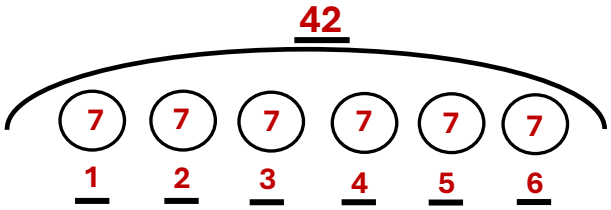


16 ÷ 4 = 4

63 ÷ 7 = 9



$6\overline{)42}$ (7)



$7\overline{)35}$ (5)

Basic Division Math Fact Modeling Practice – V11

Directions: Write the correct names of the division equation, or complete the model that matches the division equation.

Word Bank

quotient divisor dividend

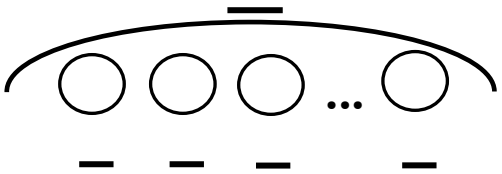
A. $49 \div 7 = ?$

The ? is called the _____

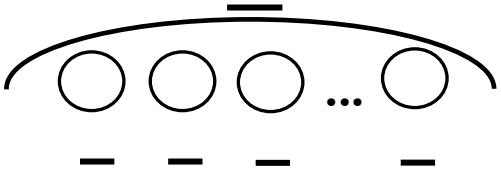
49 is called the _____

The 7 is called the _____

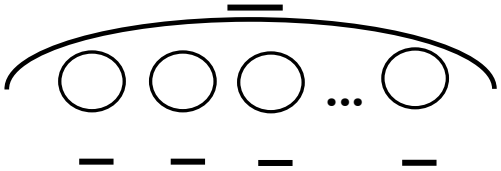
B. $21 \div 7 = ?$ → **Correctly complete the division model.**



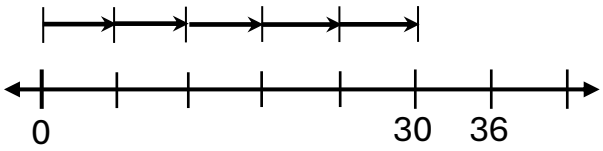
C. $9\overline{)63}$ (?) → **Correctly complete the division model.**

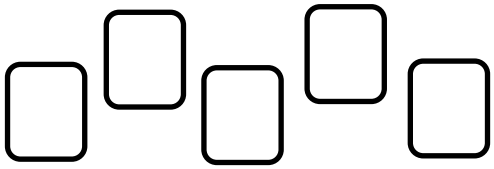


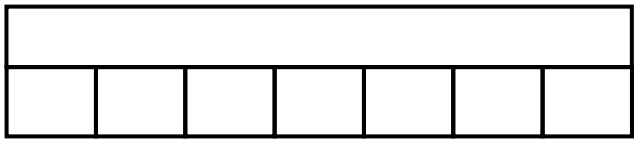
D. $9\overline{)99}$ (?) → **Correctly complete the division model.**

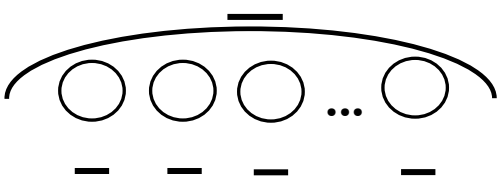


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









80 ÷ 8 = ?

30 ÷ 5 = ?

$5\overline{)40}$ (?)

$7\overline{)56}$ (?)

Basic Division Math Fact Modeling Practice – V11

Directions: Write the correct names of the division equation, or complete th matches the division equation.

ANSWER KEY

Word Bank

quotient divisor dividend

A. 49 ÷ 7 = ?

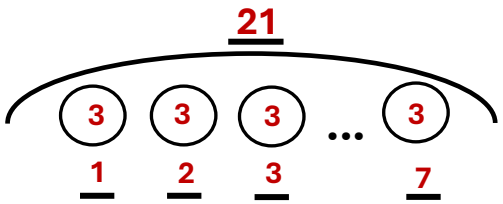
The ? is called the quotient

49 is called the dividend

The 7 is called the divisor

B. 21 ÷ 7 = ?

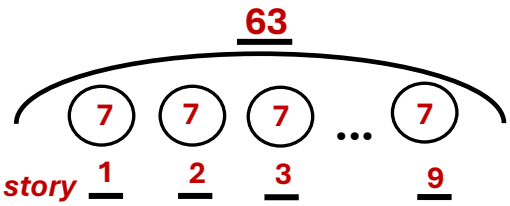
Correctly complete the division model.



Note: This model is the best for showing students remainders or division problems of any digit size.

C. $9\overline{)63}$?

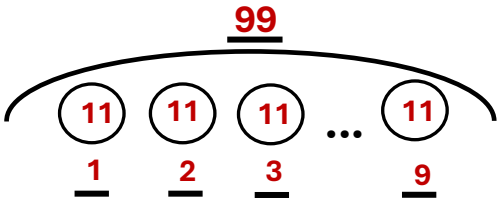
Correctly complete the division model.



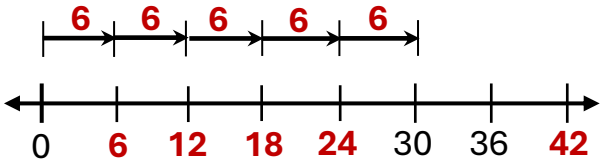
Note: If the dividend is given, the word or story problem IS a division problem. If it is not given (product), it IS a multiplication problem.

D. $9\overline{)99}$?

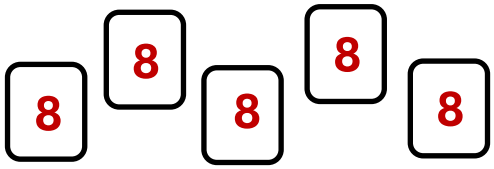
Correctly complete the division model.

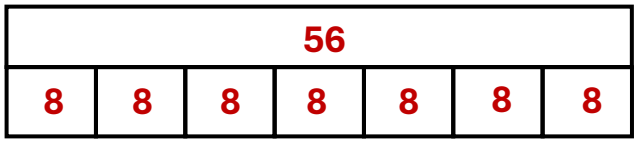


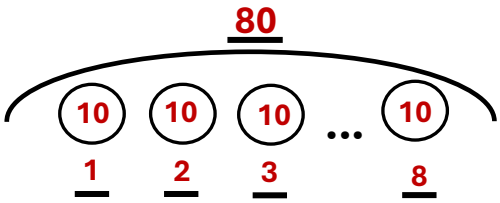
Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**



Note: The divisor will always determine the number of equal groups.







80 ÷ 8 = ?

30 ÷ 5 = ?

$5\overline{)40}$?

$7\overline{)56}$?

Basic Division Math Fact Modeling Practice – V12

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

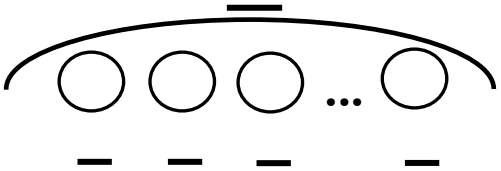
A.

The answer in a subtraction equation: _____

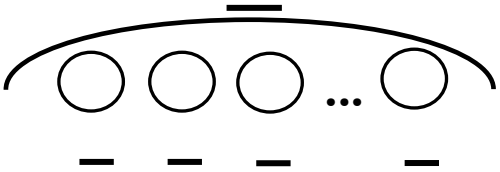
The answer in a division equation: _____

The answer in a multiplication equation: _____

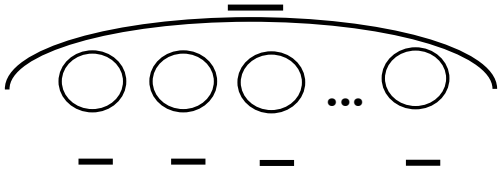
B. **77 ÷ 7 = ?** **Correctly complete the division model.**



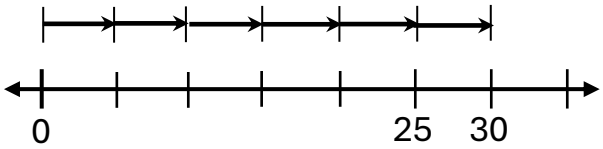
C. $8\overline{)48}^{?}$ **Correctly complete the division model.**

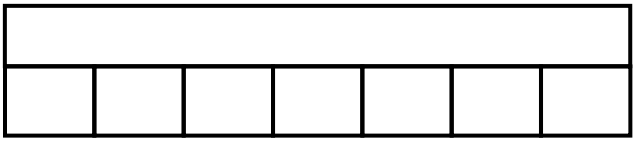


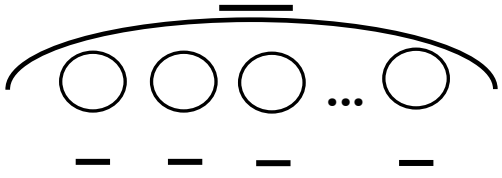
D. $6\overline{)36}^{?}$ **Correctly complete the division model.**

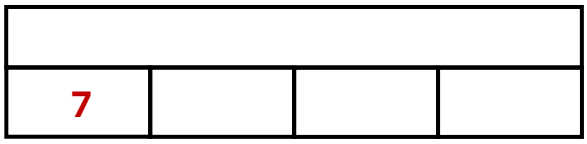


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









56 ÷ 7 = ?

100 ÷ 10 = ?

$6\overline{)30}^{?}$

$4\overline{)28}^{?}$

Basic Division Math Fact Modeling Practice – V12

ANSWER KEY

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

A.

The answer in a subtraction equation: difference

The answer in a division equation: quotient

The answer in a multiplication equation: product

B. 77 ÷ 7 = ?

Correctly complete the division model.

77

11 11 11 ... 11

1 2 3 7

Note: This model is the best for showing students remainders or division problems of any digit size.

C. $8\overline{)48}^{?}$

Correctly complete the division model.

48

6 6 6 ... 6

1 2 3 8

Note: Students draw this model with ease with threshold practice AND apply it any problem-solving application.

D. $6\overline{)36}^{?}$

Correctly complete the division model.

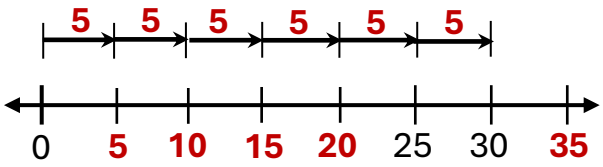
36

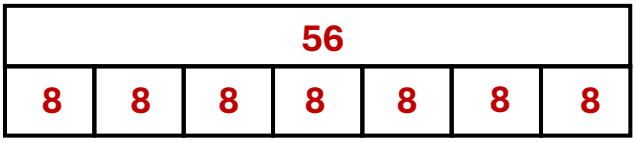
6 6 6 ... 6

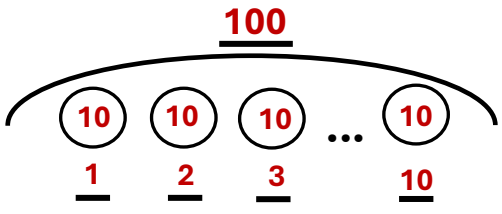
1 2 3 6

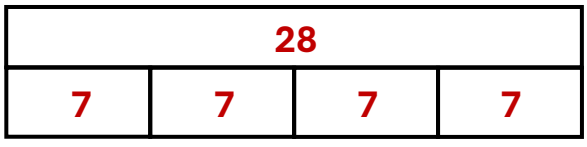
Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**

Note: The divisor will always determine the number of equal groups.









56 ÷ 7 = ?

100 ÷ 10 = ?

$6\overline{)30}^{?}$

$4\overline{)28}^{?}$

Basic Division Math Fact Modeling Practice – V13

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

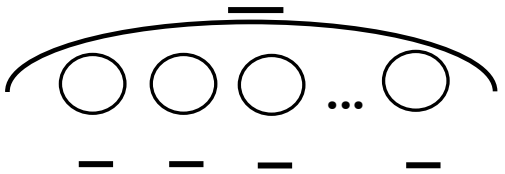
A.

The answer in a multiplication equation: _____

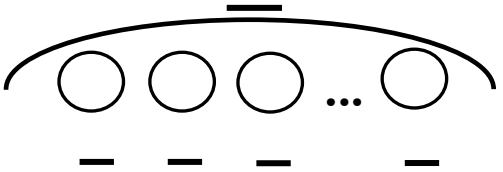
The answer in an addition equation: _____

The answer in a division equation: _____

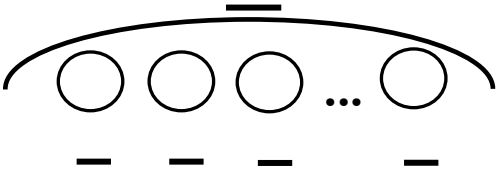
B. **36 ÷ 9 = ?** → **Correctly complete the division model.**



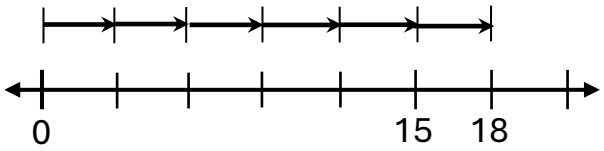
C. $8\overline{)72}^{?}$ → **Correctly complete the division model.**

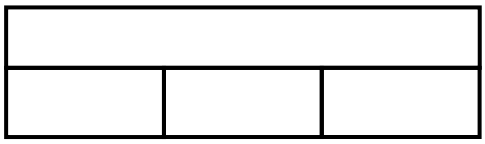


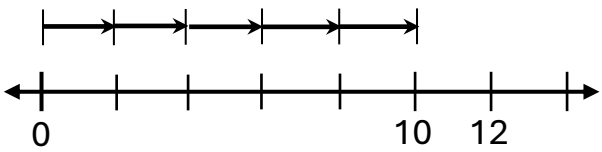
D. $8\overline{)32}^{?}$ → **Correctly complete the division model.**

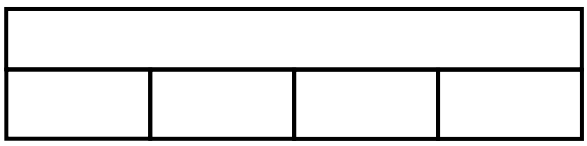


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









10 ÷ 5 = ?

18 ÷ 6 = ?

$4\overline{)44}^{?}$

$3\overline{)24}^{?}$

Basic Division Math Fact Modeling Practice – V13

ANSWER KEY

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

A.

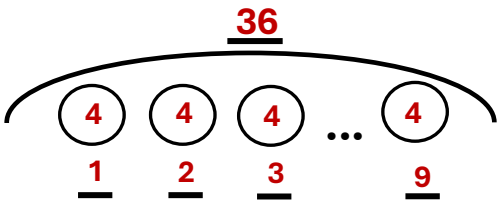
The answer in a multiplication equation: product

The answer in an addition equation: sum

The answer in a division equation: quotient

B. 36 ÷ 9 = ?

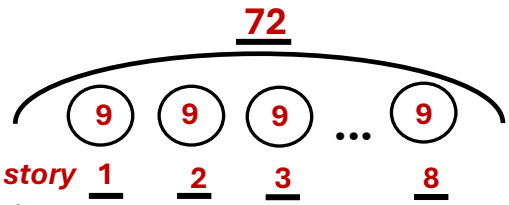
Correctly complete the division model.



Note: This model is the best for showing students remainders or division problems of any digit size.

C. $8\overline{)72}$?

Correctly complete the division model.

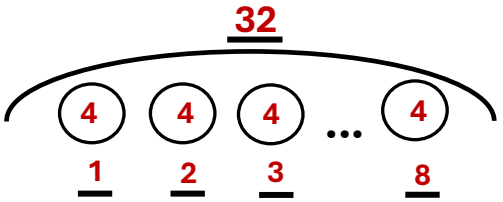


Note: If the dividend is given, the word or story problem IS a division problem. If it is not given (product), it IS a multiplication problem.

KEY:

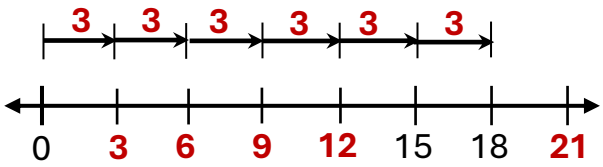
D. $8\overline{)32}$?

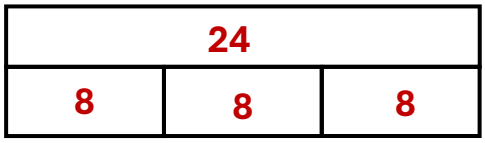
Correctly complete the division model.

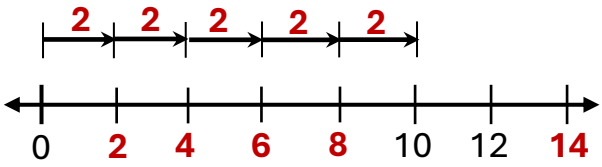


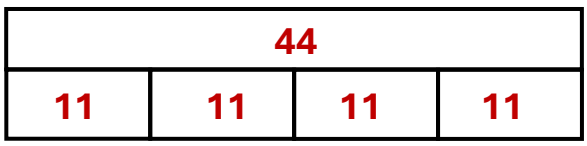
Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**

Note: The divisor will always determine the number of equal groups.









10 ÷ 5 = ?

18 ÷ 6 = ?

$4\overline{)44}$?

$3\overline{)24}$?

Basic Division Math Fact Modeling Practice – V14

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

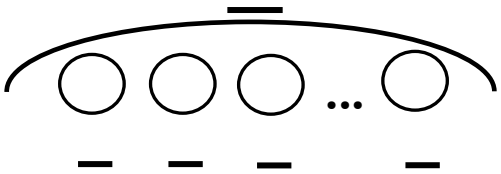
A.

The answer in a subtraction equation: _____

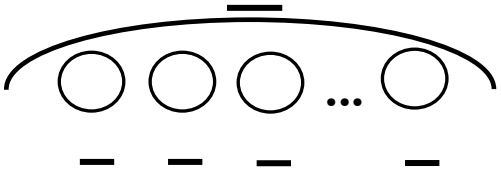
The answer in an addition equation: _____

The answer in a multiplication equation: _____

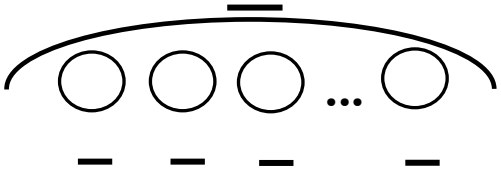
B. **45 ÷ 5 = ?** → **Correctly complete the division model.**



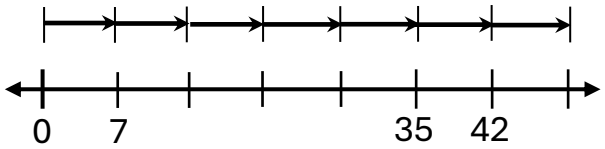
C. $6\overline{)54}^{?}$ → **Correctly complete the division model.**

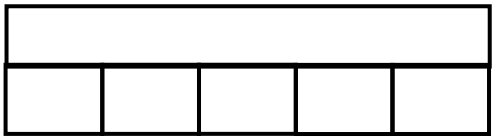


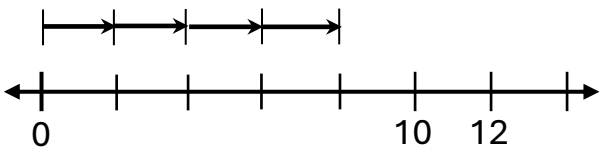
D. $8\overline{)64}^{?}$ → **Correctly complete the division model.**

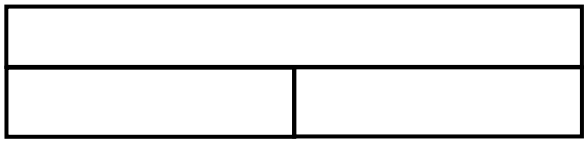


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









24 ÷ 2 = ?

50 ÷ 5 = ?

$7\overline{)49}^{?}$

$4\overline{)8}^{?}$

Basic Division Math Fact Modeling Practice – V14

ANSWER KEY

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

A.

The answer in a subtraction equation: difference

The answer in an addition equation: sum

The answer in a multiplication equation: product

B. 45 ÷ 5 = ?

Correctly complete the division model.

45

9 9 9 ... 9

1 2 3 5

Note: *This model is the best for showing students remainders or division problems of any digit size.*

C. $6\overline{)54}$?

Correctly complete the division model.

54

9 9 9 ... 9

1 2 3 6

KEY: ***Note:*** *If the dividend is given, the word or story problem IS a division problem. If it is not given (product), it IS a multiplication problem.*

D. $8\overline{)64}$?

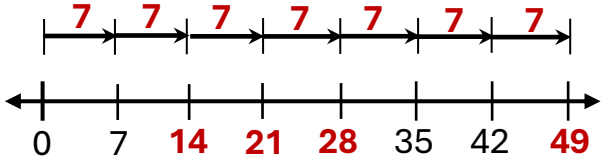
Correctly complete the division model.

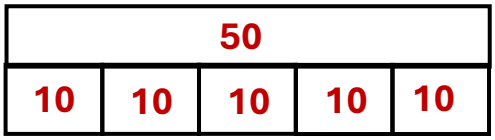
64

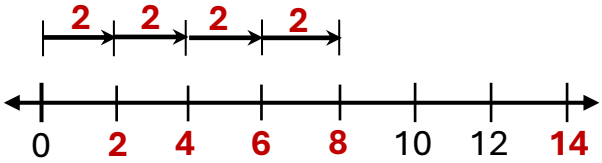
8 8 8 ... 8

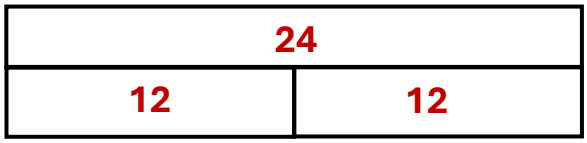
1 2 3 8

Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









24 ÷ 2 = ?

50 ÷ 5 = ?

$7\overline{)49}$?

$4\overline{)8}$?

Basic Division Math Fact Modeling Practice – V15

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

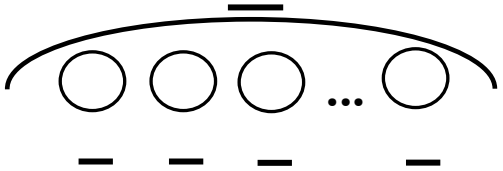
A.

The answer in a division equation: _____

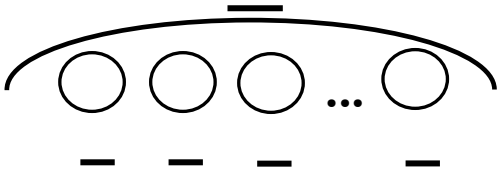
The answer in a subtraction equation: _____

The answer in a multiplication equation: _____

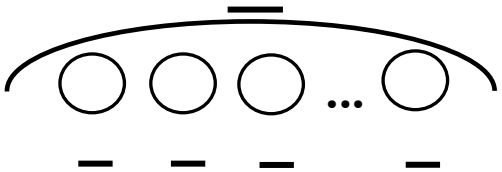
B. **55 ÷ 5 = ?** → **Correctly complete the division model.**



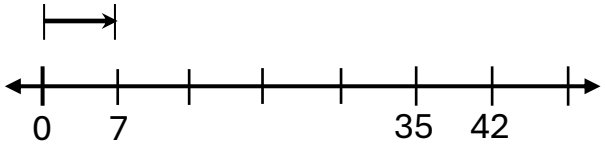
C. $9\overline{)90}^{?}$ → **Correctly complete the division model.**

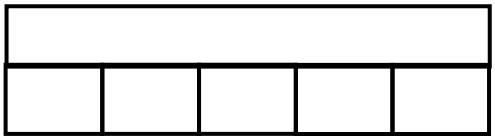


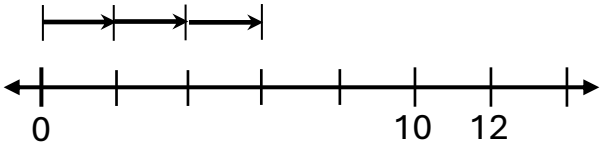
D. $5\overline{)25}^{?}$ → **Correctly complete the division model.**

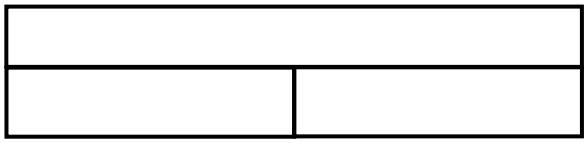


Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









100 ÷ 2 = ?

25 ÷ 5 = ?

$1\overline{)7}^{?}$

$3\overline{)6}^{?}$

Basic Division Math Fact Modeling Practice – V15

ANSWER KEY

Directions: Write the correct names that describes the math equation, or complete the model That matches the division equation.

Word Bank

sum	product
difference	quotient

A.

The answer in a division equation: ___quotient___

The answer in a subtraction equation: ___difference___

The answer in a multiplication equation: ___product___

B. **55 ÷ 5 = ?** → **Correctly complete the division model.**

55

11 11 11 ... 11

1 2 3 5

Note: ***This model is the best for showing students remainders or division problems of any digit size.***

C. $9\overline{)90}$ → **Correctly complete the division model.**

90

10 10 10 ... 10

1 2 3 9

Note: ***If the dividend is given, the word or story problem IS a division problem. If it is not given (product), it IS a multiplication problem.***

KEY:

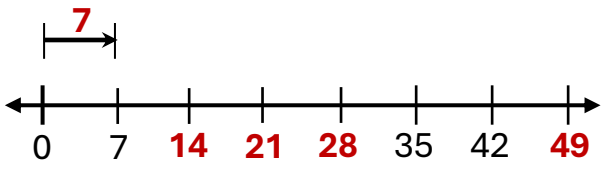
D. $5\overline{)25}$ → **Correctly complete the division model.**

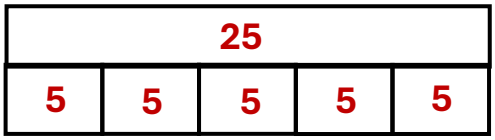
25

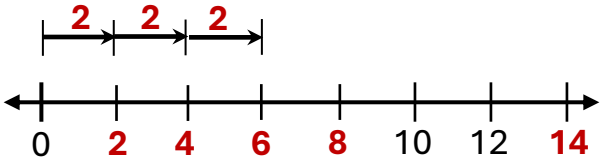
5 5 5 ... 5

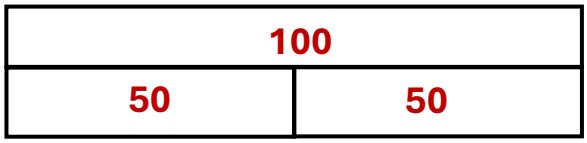
1 2 3 5

Directions: Match the division equation on the right with the correct division model on the left by drawing a connecting arrow. **Complete the division model, as needed.**









100 ÷ 2 = ?

25 ÷ 5 = ?

$1\overline{)7}$

$3\overline{)6}$

Section 2

Basic Division Math Fact – With *REMAINDERS* Physical and Conceptual Meaning of Division (Whole Numbers)

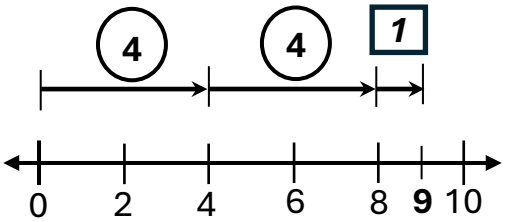
Student Practice Resource

Basic Division Math Fact with Remainders Modeling Practice – V1

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

1.

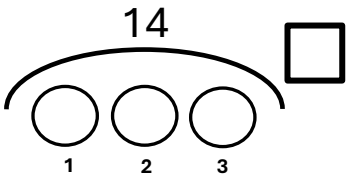
$2\overline{)9}$



4 R 1

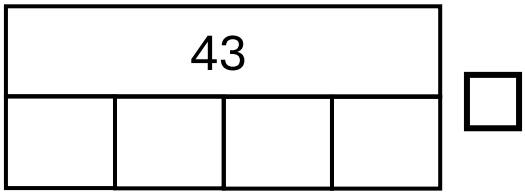
2.

$3\overline{)14}$



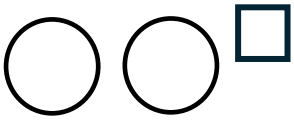
3.

$4\overline{)43}$



4.

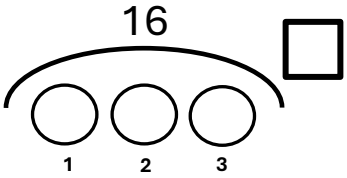
$2\overline{)7}$



Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

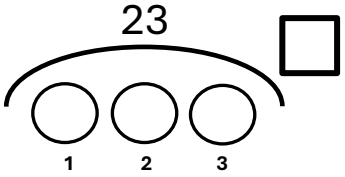
1.

$3\overline{)16}$



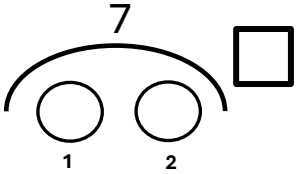
2.

$3\overline{)23}$



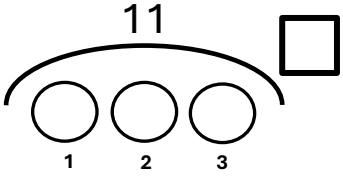
3.

$2\overline{)7}$



4.

$3\overline{)11}$

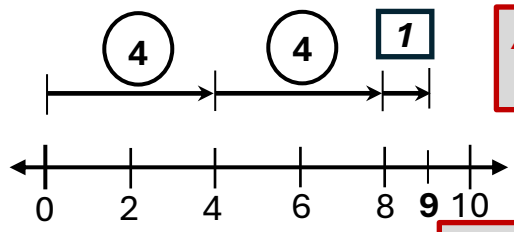


Basic Division Math Fact with Remainders Modeling Practice – V1

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

ANSWER KEY

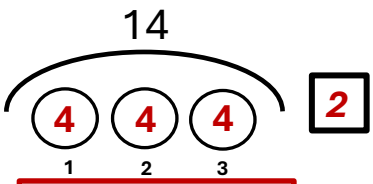
1.



$2\overline{)9}$? = **4 R 1**

Note: It is 2 equal groups of 4 with a remainder of 1.

2.



Best Division Model.

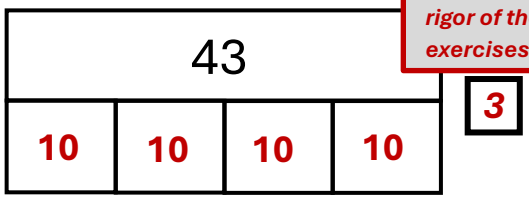
$3\overline{)14}$? = **4 R 2**

Note: It is 3 equal groups of 4 with a remainder of 2.

Practice in class PRIOR to using this resource, so students are adequately prepared for the rigor of the exercises.

Any division equation easily modeled.

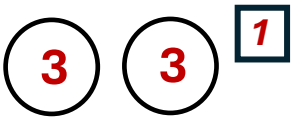
3.



$4\overline{)43}$? = **10 R 3**

Note: It is 4 equal groups of 10 with a remainder of 3.

4.

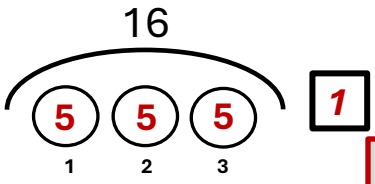


$2\overline{)7}$? = **3 R 1**

Note: It is 2 equal groups of 3 with a remainder of 1.

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

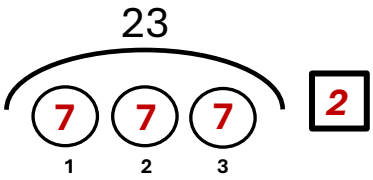
1.



$3\overline{)16}$? = **5 R 1**

Note: It is 3 equal groups of 5 with a remainder of 1.

2.



$3\overline{)23}$? = **7 R 2**

Note: It is 3 equal groups of 7 with a remainder of 2.

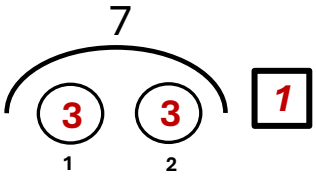
Model in class – several problems each day before the core lesson.

Then, if needed, work the first one (1.) with your students on this page.

They only need sufficient learning opportunities and guidance.

Math fact mastery is essential. Use Formative Loop so ALL students learn their math facts to automaticity.

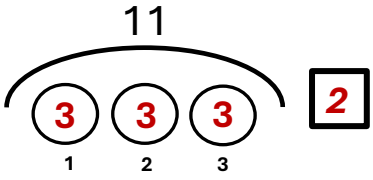
3.



$2\overline{)7}$? = **3 R 1**

Note: It is 2 equal groups of 3 with a remainder of 1.

4.



$3\overline{)11}$? = **3 R 2**

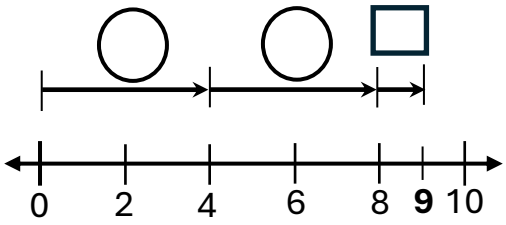
Note: It is 3 equal groups of 3 with a remainder of 2.

Basic Division Math Fact with Remainders Modeling Practice – V2

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

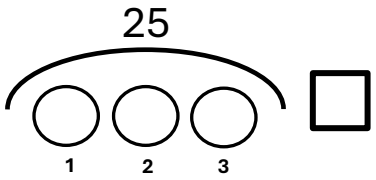
1.

$2\overline{)9}$



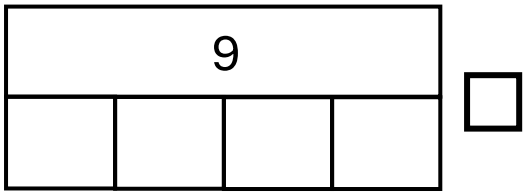
2.

$3\overline{)25}$



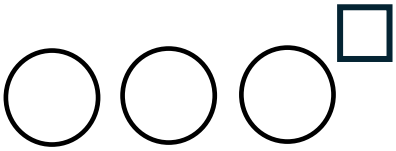
3.

$4\overline{)9}$



4.

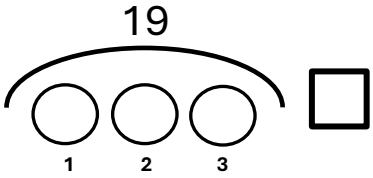
$3\overline{)11}$



Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

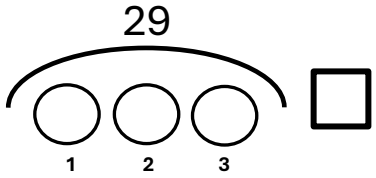
1.

$3\overline{)19}$



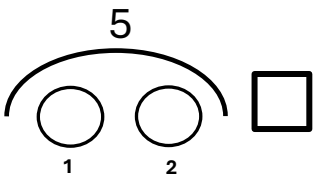
2.

$3\overline{)29}$



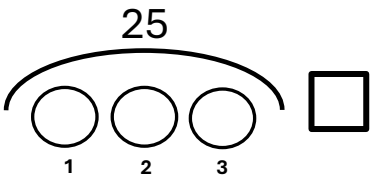
3.

$2\overline{)5}$



4.

$3\overline{)25}$

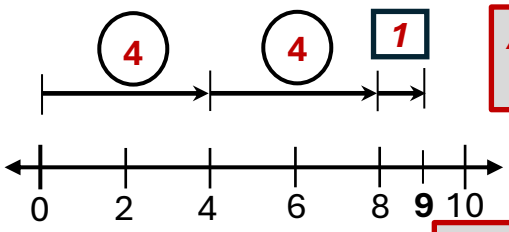


Basic Division Math Fact with Remainders Modeling Practice – V2

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

ANSWER KEY

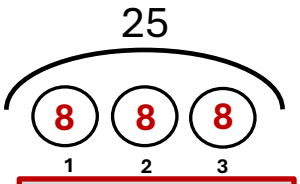
1.



$2\overline{)9}$? = 4 R 1

Note: It is 2 equal groups of 4 with a remainder of 1.

2.



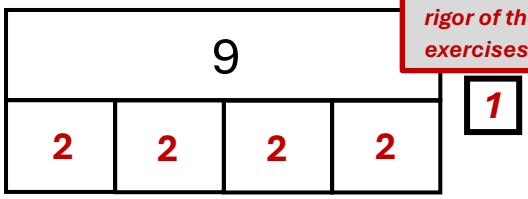
Best Division Model.

$3\overline{)25}$? = 8 R 1

Note: It is 3 equal groups of 8 with a remainder of 1.

Practice in class PRIOR to using this resource, so students are adequately prepared for the rigor of the exercises.

3.

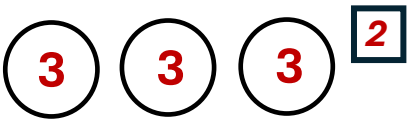


$4\overline{)9}$? = 2 R 1

Note: It is 4 equal groups of 2 with a remainder of 1.

4.

Any division equation easily modeled.

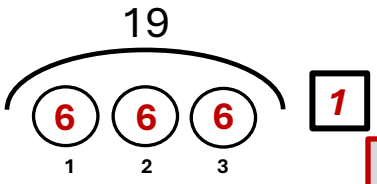


$3\overline{)11}$? = 3 R 2

Note: It is 3 equal groups of 3 with a remainder of 2.

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

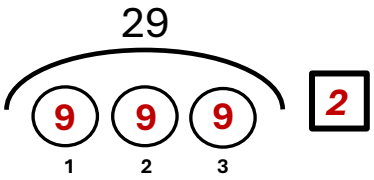
1.



$3\overline{)19}$? = 6 R 1

Note: It is 3 equal groups of 6 with a remainder of 1.

2.



$3\overline{)29}$? = 9 R 2

Note: It is 3 equal groups of 9 with a remainder of 2.

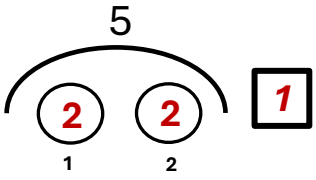
Model in class – several problems each day before the core lesson.

Then, if needed, work the first one (1.) with your students on this page.

They only need sufficient learning opportunities and guidance.

Math fact mastery is essential. Use Formative Loop so ALL students learn their math facts to automaticity.

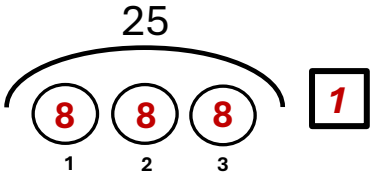
3.



$2\overline{)5}$? = 2 R 1

Note: It is 2 equal groups of 2 with a remainder of 1.

4.



$3\overline{)25}$? = 8 R 1

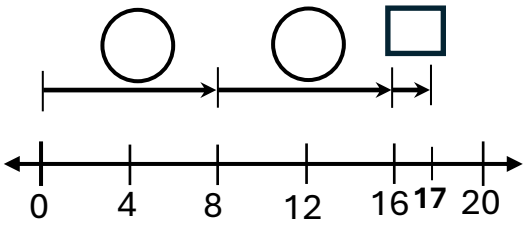
Note: It is 3 equal groups of 8 with a remainder of 1.

Basic Division Math Fact with Remainders Modeling Practice – V3

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

1.

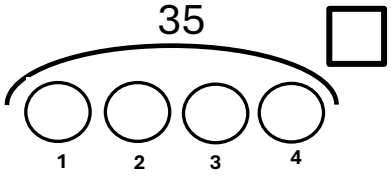
$2\overline{)17}$



_____

2.

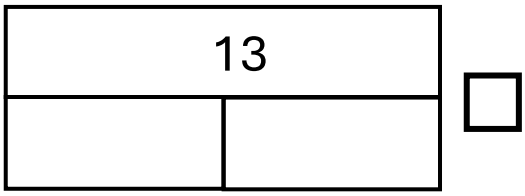
$4\overline{)35}$



_____

3.

$2\overline{)13}$



_____

4.

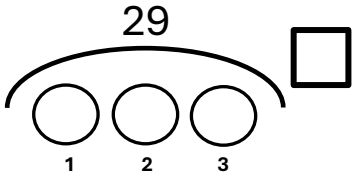
$4\overline{)23}$

_____

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

1.

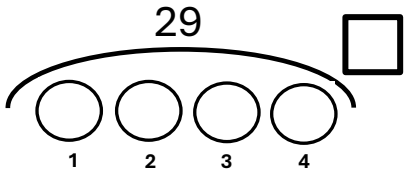
$3\overline{)29}$



_____

2.

$4\overline{)29}$



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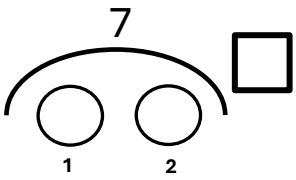
3.

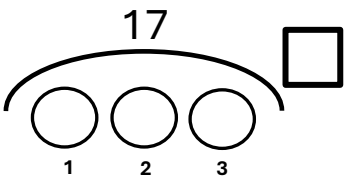
$2\overline{)7}$



_____

4.

$3\overline{)17}$



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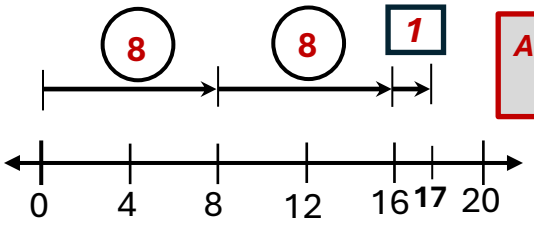
Basic Division Math Fact with Remainders Modeling Practice – V3

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

ANSWER KEY

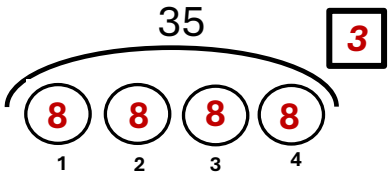
1.



$2\overline{)17}$? = 8 R 1

Note: It is 2 equal groups of 8 with a remainder of 1.

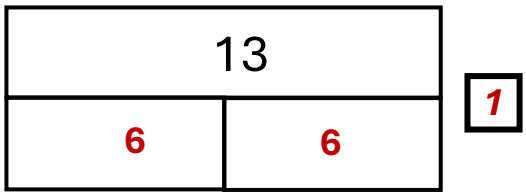
2.



$4\overline{)35}$? = 8 R 3

Note: It is 4 equal groups of 8 with a remainder of 3.

3.



$2\overline{)13}$? = 6 R 1

Note: It is 2 equal groups of 6 with a remainder of 1.

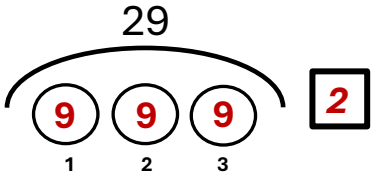
4.

$4\overline{)23}$? = 5 R 3

Note: It is 4 equal groups of 5 with a remainder of 3.

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

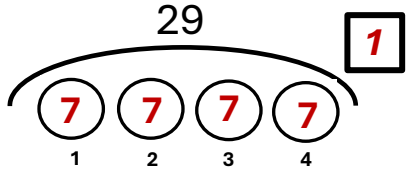
1.



$3\overline{)29}$? = 9 R 2

Note: It is 3 equal groups of 9 with a remainder of 2.

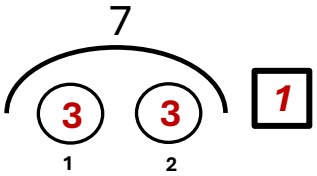
2.



$4\overline{)29}$? = 7 R 1

Note: It is 4 equal groups of 7 with a remainder of 1.

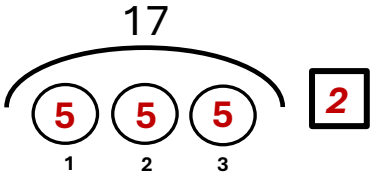
3.



$2\overline{)7}$? = 3 R 1

Note: It is 2 equal groups of 3 with a remainder of 1.

4.



$3\overline{)17}$? = 5 R 2

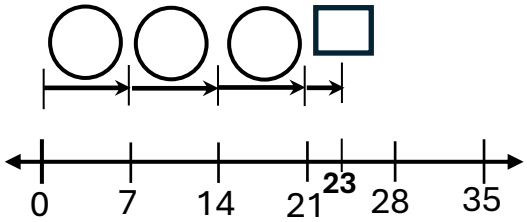
Note: It is 3 equal groups of 5 with a remainder of 2.

Basic Division Math Fact <u>with Remainders</u> Modeling Practice – V4

Directions: <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

1.

$3\overline{)23}$



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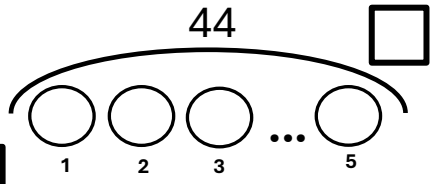
2.

$5\overline{)44}$



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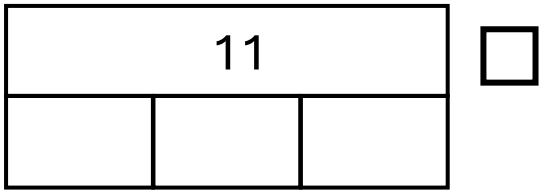
3.

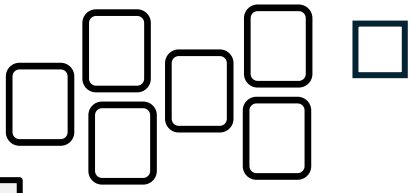
$3\overline{)11}$



_____

4.

$5\overline{)34}$



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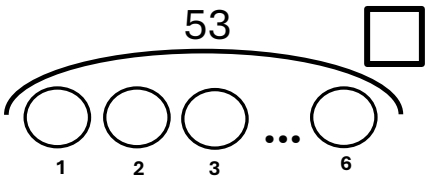
Directions: <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

1.

$6\overline{)53}$



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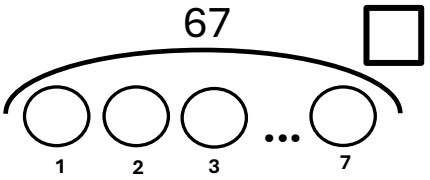
2.

$7\overline{)67}$



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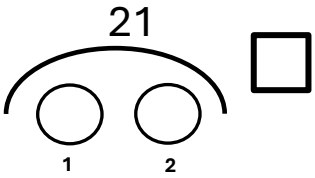
3.

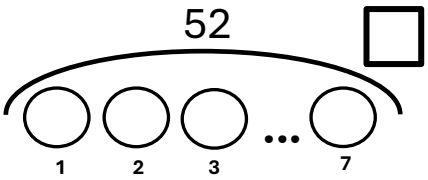
$2\overline{)21}$



_____

4.

$7\overline{)52}$



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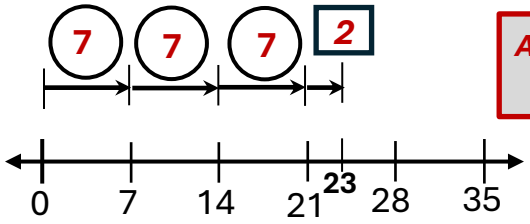
Basic Division Math Fact with Remainders Modeling Practice – V4

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

ANSWER KEY

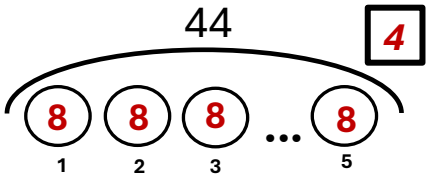
1.



$3\overline{)23}$? = 7 R 2

Note: It is 3 equal groups of 7 with a remainder of 2.

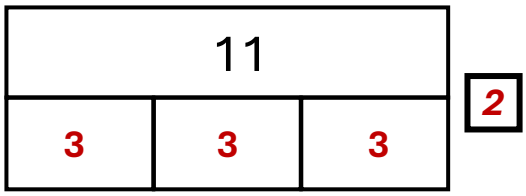
2.



$5\overline{)44}$? = 8 R 4

Note: It is 5 equal groups of 8 with a remainder of 4.

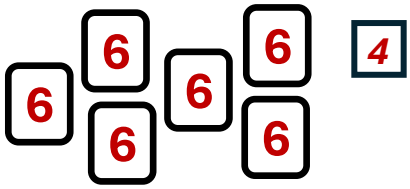
3.



$3\overline{)11}$? = 3 R 2

Note: It is 3 equal groups of 3 with a remainder of 2.

4.

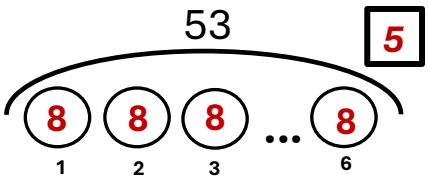


$5\overline{)34}$? = 6 R 4

Note: It is 5 equal groups of 6 with a remainder of 4.

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

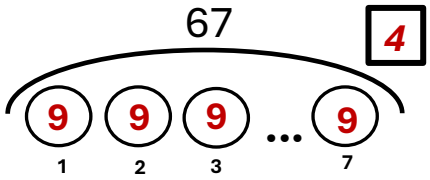
1.



$6\overline{)53}$? = 8 R 5

Note: It is 6 equal groups of 8 with a remainder of 5.

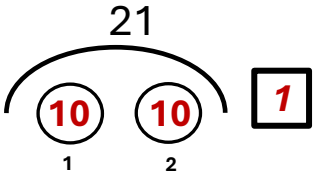
2.



$7\overline{)67}$? = 9 R 4

Note: It is 7 equal groups of 9 with a remainder of 4.

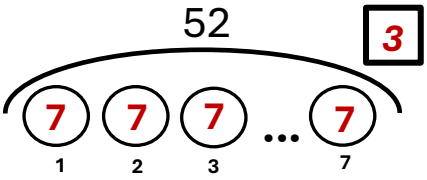
3.



$2\overline{)21}$? = 10 R 1

Note: It is 2 equal groups of 10 with a remainder of 1.

4.



$7\overline{)52}$? = 7 R 3

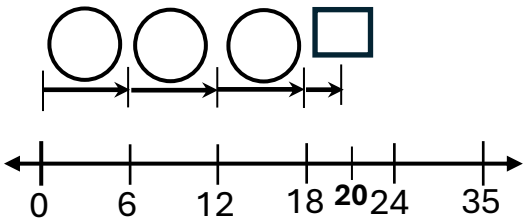
Note: It is 7 equal groups of 7 with a remainder of 3.

Basic Division Math Fact <u>with Remainders</u> Modeling Practice – V5

Directions: <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

1.

$3\overline{)20}$



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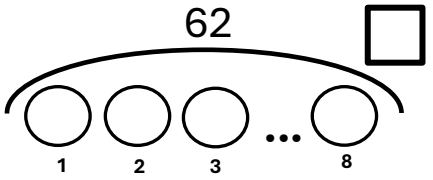
2.

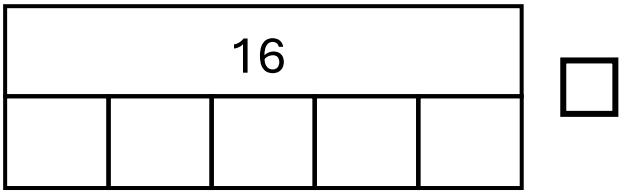
$8\overline{)62}$



_____

3.

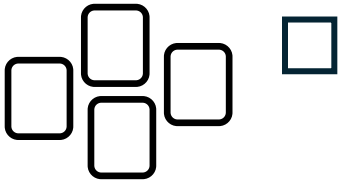
$5\overline{)16}$



_____

4.

$4\overline{)34}$

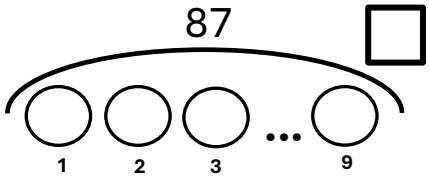


_____

<u>Directions:</u> <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

1.

$9\overline{)87}$



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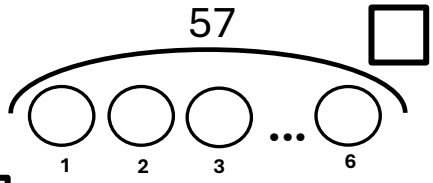
2.

$6\overline{)57}$



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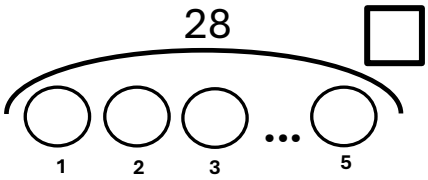
3.

$5\overline{)28}$



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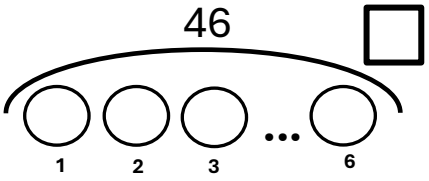
4.

$6\overline{)46}$



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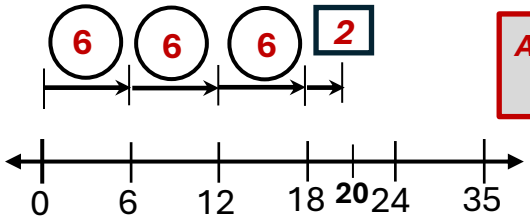
Basic Division Math Fact with Remainders Modeling Practice – V5

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

ANSWER KEY

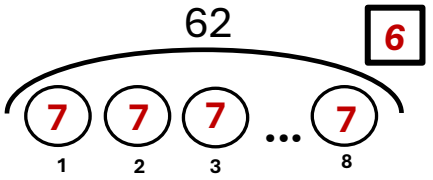
1.



$3\overline{)20}$? = 6 R 2

Note: It is 3 equal groups of 6 with a remainder of 2.

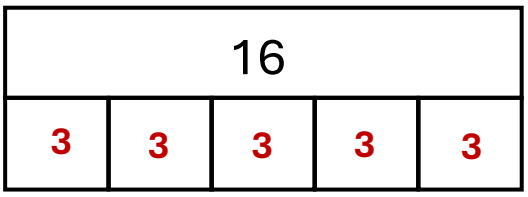
2.



$8\overline{)62}$? = 7 R 6

Note: It is 8 equal groups of 7 with a remainder of 6.

3.

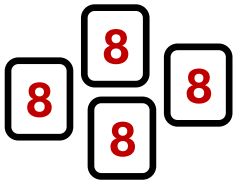


1

$5\overline{)16}$? = 3 R 1

Note: It is 5 equal groups of 3 with a remainder of 1.

4.



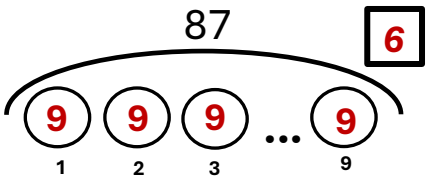
2

$4\overline{)34}$? = 8 R 2

Note: It is 4 equal groups of 8 with a remainder of 2.

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

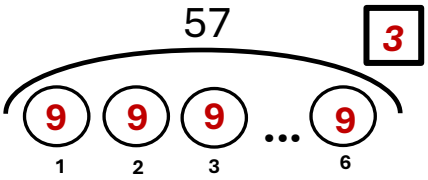
1.



$9\overline{)87}$? = 9 R 6

Note: It is 9 equal groups of 9 with a remainder of 6.

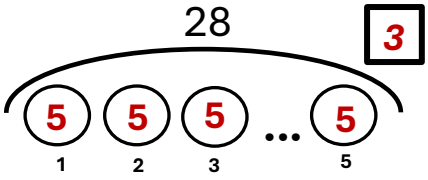
2.



$6\overline{)57}$? = 9 R 3

Note: It is 6 equal groups of 9 with a remainder of 3.

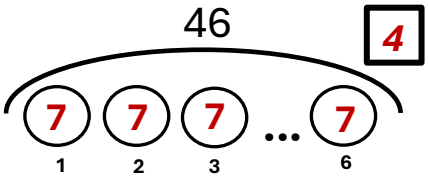
3.



$5\overline{)28}$? = 5 R 3

Note: It is 5 equal groups of 5 with a remainder of 3.

4.



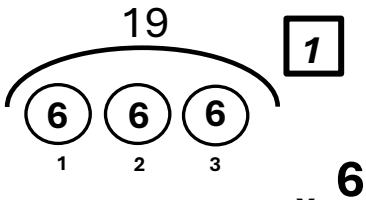
$6\overline{)46}$? = 7 R 4

Note: It is 6 equal groups of 7 with a remainder of 4.

Basic Division Math Fact <u>with Remainders</u> Modeling Practice – V6

Directions: ***<u>Write</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

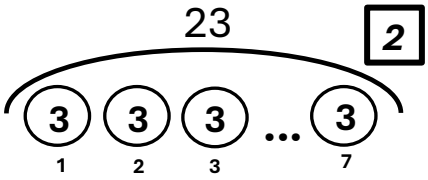
1.



$$3\overline{)19} \quad 6 \text{ R } 1$$

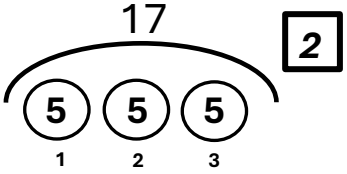
$$\begin{array}{r} 6 \\ \times\ 3 \\ \hline 18 \\ +\ 1 \\ \hline 19 \end{array} \checkmark$$

2.



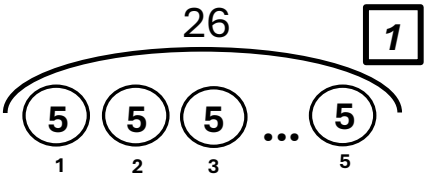
$$\overline{)\quad} \quad R$$

3.



$$\overline{)\quad} \quad R$$

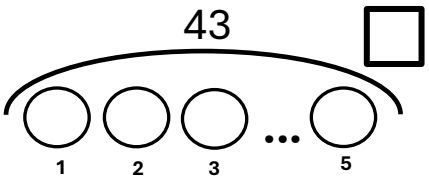
4.



$$\overline{)\quad} \quad R$$

Directions: <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

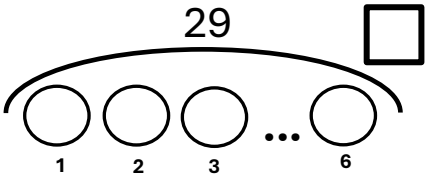
1.



$$5\overline{)43}$$

_____

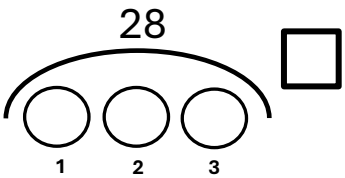
2.



$$6\overline{)29}$$

_____

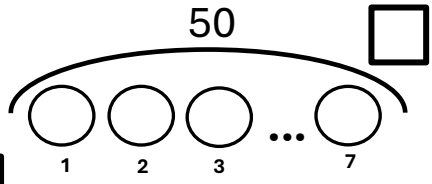
3.



$$3\overline{)28}$$

_____

4.



$$7\overline{)50}$$

_____

Basic Division Math Fact with Remainders Modeling Practice – V6

Directions: ***Write*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

Practice in class PRIOR to using this resource, so students are adequately prepared for the rigor of the exercises.

1.

19

(6) (6) (6) — groups 1, 2, 3 — remainder box: 1

$3\overline{)19}$ = 6 R 1

6 × 3 = 18; 18 + 1 = 19 ✓

2.

23

(3) (3) (3) … (3) — groups 1, 2, 3 … 7 — remainder box: 2

$7\overline{)23}$ = 3 R 2

7 × 3 = 21; 21 + 2 = 23 ✓

3.

17

(5) (5) (5) — groups 1, 2, 3 — remainder box: 2

$3\overline{)17}$ = 5 R 2

5 × 3 = 15; 15 + 2 = 17 ✓

4.

26

(5) (5) (5) … (5) — groups 1, 2, 3 … 5 — remainder box: 1

$5\overline{)26}$ = 5 R 1

5 × 5 = 25; 25 + 1 = 26 ✓

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

Math facts must be automatic. Recall in 3 seconds per fact. Use Formative Loop so all kiddos learn them to mastery.

1.

43

(8) (8) (8) … (8) — groups 1, 2, 3 … 5 — remainder box: 3

$5\overline{)43}$ = ?

? = 8 R 3

Note: It is 5 equal groups of 8 with a remainder of 3.

2.

29

(4) (4) (4) … (4) — groups 1, 2, 3 … 6 — remainder box: 5

$6\overline{)29}$ = ?

? = 4 R 5

Note: It is 6 equal groups of 4 with a remainder of 5.

3.

28

(9) (9) (9) — groups 1, 2, 3 — remainder box: 1

$3\overline{)28}$ = ?

? = 9 R 1

Note: It is 3 equal groups of 9 with a remainder of 1.

4.

50

(7) (7) (7) … (7) — groups 1, 2, 3 … 7 — remainder box: 1

$7\overline{)50}$ = ?

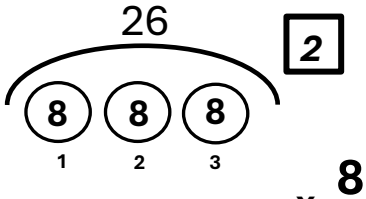
? = 7 R 1

Note: It is 7 equal groups of 7 with a remainder of 1.

Basic Division Math Fact <u>with Remainders</u> Modeling Practice – V7

Directions: ***<u>Write</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

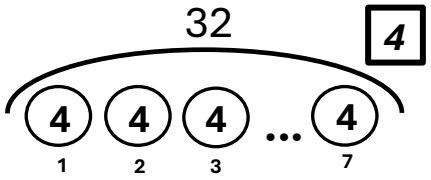
1.



$3\overline{)26}$ = 8 R 2

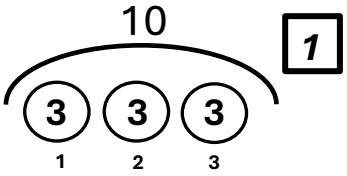
$$\begin{array}{r} 8 \\ \times\ 3 \\ \hline 24 \\ +\ 2 \\ \hline 26 \end{array} \checkmark$$

2.



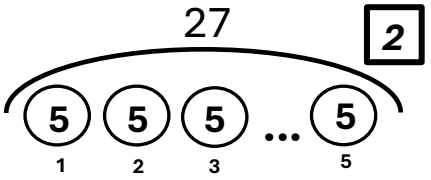
$\overline{)\ }$ = R

3.



$\overline{)\ }$ = R

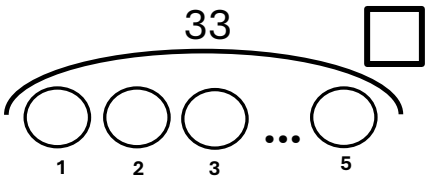
4.



$\overline{)\ }$ = R

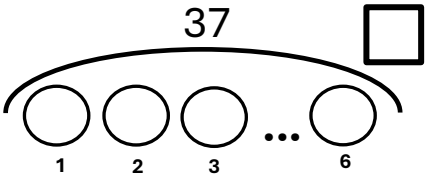
Directions: <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

1.



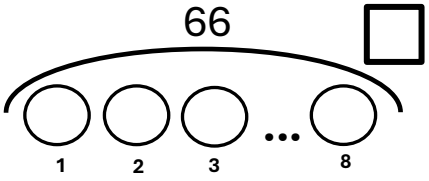
$5\overline{)33}$ = _____

2.



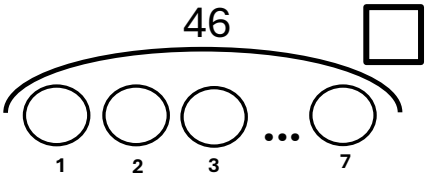
$6\overline{)37}$ = _____

3.



$8\overline{)66}$ = _____

4.



$7\overline{)46}$ = _____

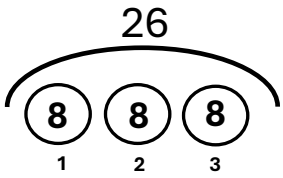
Basic Division Math Fact with Remainders Modeling Practice – V7

Directions: ***Write*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

Practice in class PRIOR to using this resource, so students are adequately prepared for the rigor of the exercises.

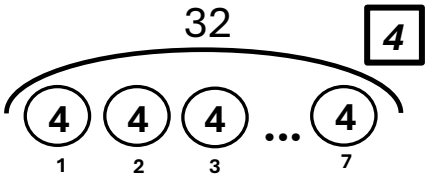
1.



$3\overline{)26}$ → 8 R 2

$8 \times 3 = 24$, $24 + 2 = 26$ ✓

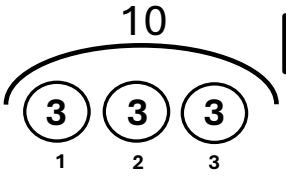
2.



$7\overline{)32}$ → 4 R 4

$7 \times 4 = 28$, $28 + 4 = 32$ ✓

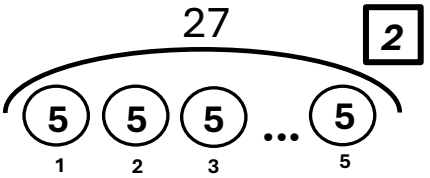
3.



$3\overline{)10}$ → 3 R 1

$3 \times 3 = 9$, $9 + 1 = 10$ ✓

4.

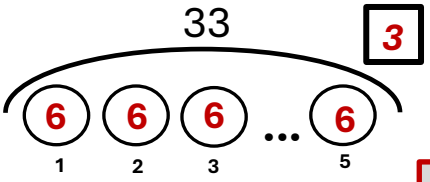


$5\overline{)27}$ → 5 R 2

$5 \times 5 = 25$, $25 + 2 = 27$ ✓

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

1.



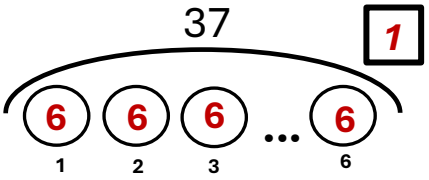
$5\overline{)33}$

? = 6 R 3

Note: It is 5 equal groups of 6 with a remainder of 3.

Math facts must be automatic. Recall in 3 seconds per fact. Use Formative Loop so all kiddos learn them to mastery.

2.

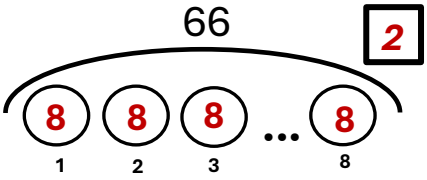


$6\overline{)37}$

? = 6 R 1

Note: It is 6 equal groups of 6 with a remainder of 1.

3.

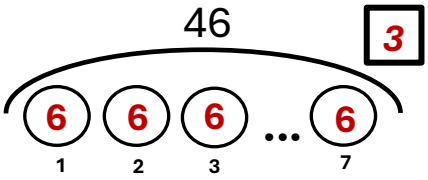


$8\overline{)66}$

? = 8 R 2

Note: It is 8 equal groups of 8 with a remainder of 2.

4.



$7\overline{)46}$

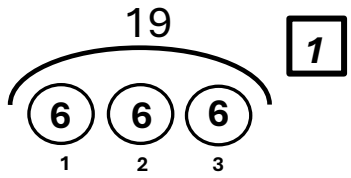
? = 6 R 3

Note: It is 7 equal groups of 6 with a remainder of 3.

Basic Division Math Fact with Remainders Modeling Practice – V8

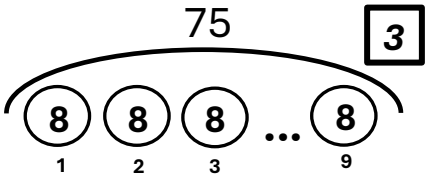
Directions: ***Write*** the division equation based on the model. ***Check*** equation by multiplication.

1.



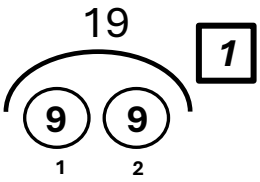
R

2.



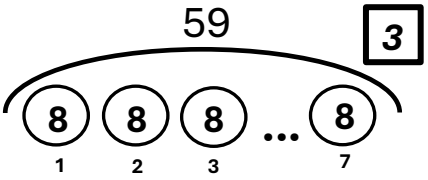
R

3.



R

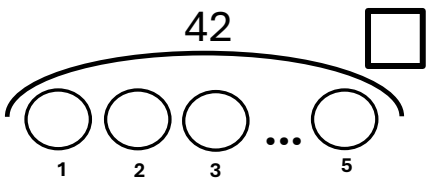
4.



R

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

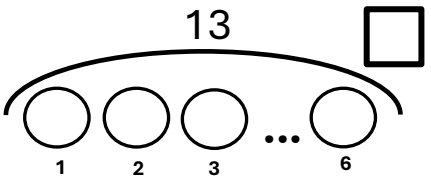
1.



$5\overline{)42}$

_____

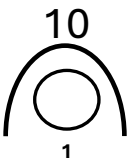
2.



$6\overline{)13}$

_____

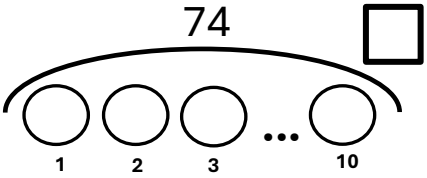
3.



$1\overline{)10}$

_____

4.



$10\overline{)74}$

_____

Basic Division Math Fact with Remainders Modeling Practice – V8

Directions: ***Write*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

1.

19 — 6 6 6 (groups 1, 2, 3) — remainder box: 1

$3 \overline{)19}$ = 6 R 1

Check: 6 × 3 = 18; 18 + 1 = 19 ✓

2.

75 — 8 8 8 … 8 (groups 1, 2, 3 … 9) — remainder box: 3

$9 \overline{)75}$ = 8 R 3

Check: 8 × 9 = 72; 72 + 3 = 75 ✓

3.

19 — 9 9 (groups 1, 2) — remainder box: 1

$2 \overline{)19}$ = 9 R 1

Check: 9 × 2 = 18; 18 + 1 = 19 ✓

4.

59 — 8 8 8 … 8 (groups 1, 2, 3 … 7) — remainder box: 3

$7 \overline{)59}$ = 8 R 3

Check: 7 × 8 = 56; 56 + 3 = 59 ✓

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

1.

42 — 8 8 8 … 8 (groups 1, 2, 3 … 5) — remainder box: 2

$5 \overline{)42}$ = ?

? = 8 R 2

Note: It is 5 equal groups of 8 with a remainder of 2.

2.

13 — 2 2 2 … 2 (groups 1, 2, 3 … 6) — remainder box: 1

$6 \overline{)13}$ = ?

? = 2 R 1

Note: It is 6 equal groups of 2 with a remainder of 1.

3.

10 — 10 (group 1)

$1 \overline{)10}$ = ?

? = 10

Note: It is 1 equal group of 10 with a remainder of 0.

4.

74 — 7 7 7 … 7 (groups 1, 2, 3 … 10) — remainder box: 4

$10 \overline{)74}$ = ?

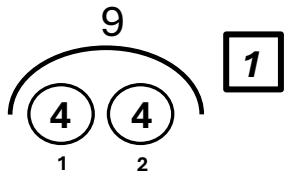
? = 7 R 4

Note: It is 10 equal groups of 7 with a remainder of 4.

Basic Division Math Fact <u>with Remainders</u> Modeling Practice – V9

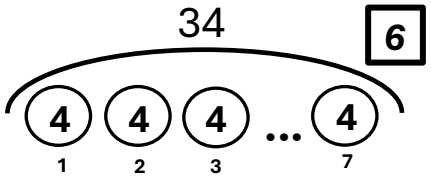
Directions: ***<u>Write</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



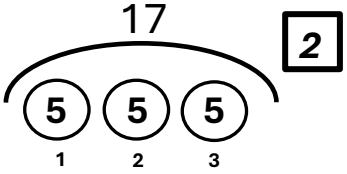
R

2.



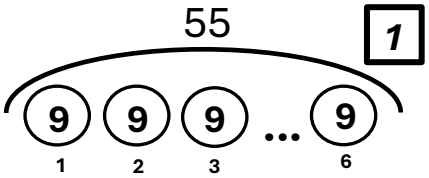
R

3.



R

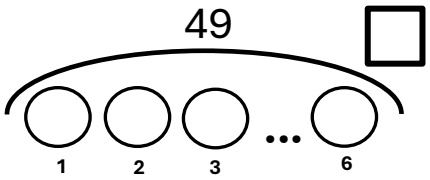
4.



R

Directions: <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

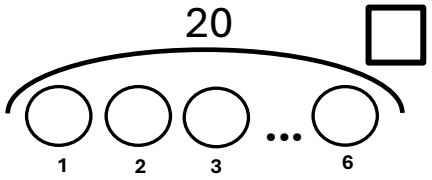
1.



$6\overline{)49}$

_____

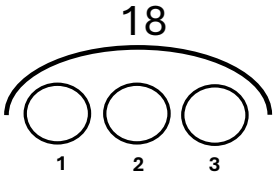
2.



$6\overline{)20}$

_____

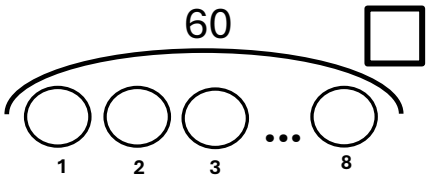
3.



$3\overline{)18}$

_____

4.



$8\overline{)60}$

_____

Basic Division Math Fact with Remainders Modeling Practice – V9

Directions: ***Write*** the division equation based on the model. ***Check*** equation by multiplication.

1. 9 — (4) (4) — groups 1, 2 — remainder box: 1

ANSWER KEY

$2 \overline{)9}$ = 4 R 1

$4 \times 2 = 8$; $8 + 1 = 9$ ✓

2. 34 — (4) (4) (4) … (4) — groups 1, 2, 3 … 7 — remainder box: 6

$7 \overline{)34}$ = 4 R 6

$7 \times 4 = 28$; $28 + 6 = 34$ ✓

3. 17 — (5) (5) (5) — groups 1, 2, 3 — remainder box: 2

$3 \overline{)17}$ = 5 R 2

$5 \times 3 = 15$; $15 + 2 = 17$ ✓

4. 55 — (9) (9) (9) … (9) — groups 1, 2, 3 … 6 — remainder box: 1

$6 \overline{)55}$ = 9 R 1

$9 \times 6 = 54$; $54 + 1 = 55$ ✓

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

1. 49 — (8) (8) (8) … (8) — groups 1, 2, 3 … 6 — remainder box: 1

$6 \overline{)49}$?

? = 8 R 1

Note: It is 6 equal groups of 8 with a remainder of 1.

2. 20 — (3) (3) (3) … (3) — groups 1, 2, 3 … 6 — remainder box: 2

$6 \overline{)20}$?

? = 3 R 2

Note: It is 6 equal groups of 3 with a remainder of 2.

3. 18 — (6) (6) (6) — groups 1, 2, 3

$3 \overline{)18}$?

? = 6

Note: It is 3 equal groups of with a remainder of 0.

4. 60 — (7) (7) (7) … (7) — groups 1, 2, 3 … 8 — remainder box: 4

$8 \overline{)60}$?

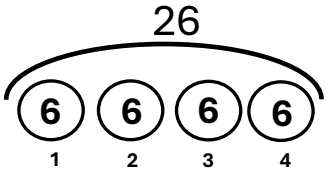
? = 7 R 4

Note: It is 8 equal groups of 7 with a remainder of 4.

Basic Division Math Fact <u>with Remainders</u> Modeling Practice – V10

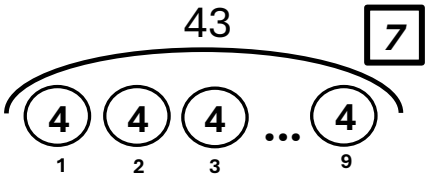
Directions: ***<u>Write</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



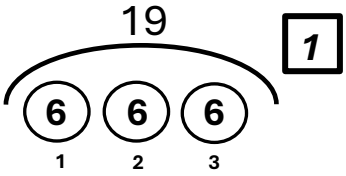
R

2.



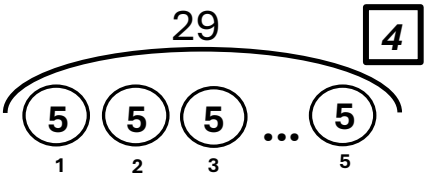
R

3.



R

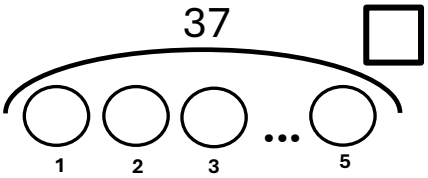
4.



R

Directions: <u>Compute</u> the **<u>quotient</u>** write it on the line and <u>fill</u> in the boxes to complete the model.

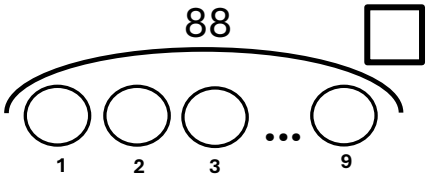
1.



$5\overline{)37}$

_____

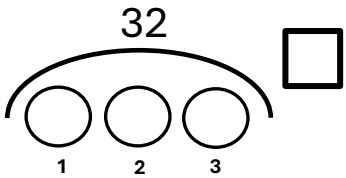
2.



$9\overline{)88}$

_____

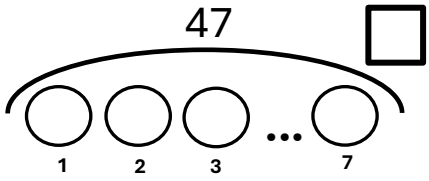
3.



$3\overline{)32}$

_____

4.



$7\overline{)47}$

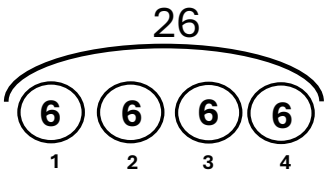
_____

Basic Division Math Fact with Remainders Modeling Practice – V10

Directions: ***Write*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

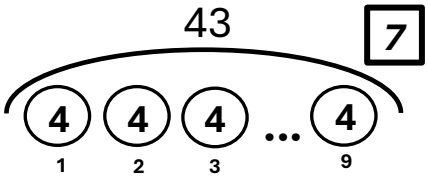
1.



$4\overline{)26}$ = 6 R 2

$6 \times 4 = 24$, $24 + 2 = 26$ ✓

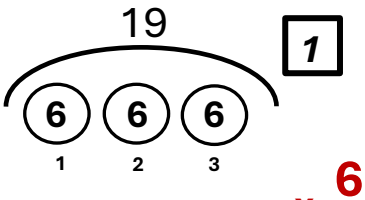
2.



$9\overline{)43}$ = 4 R 7

$9 \times 4 = 36$, $36 + 7 = 43$ ✓

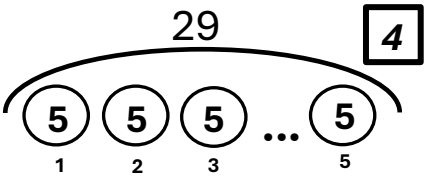
3.



$3\overline{)19}$ = 6 R 1

$6 \times 3 = 18$, $18 + 1 = 19$ ✓

4.

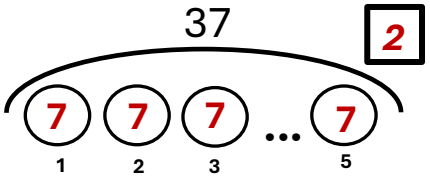


$5\overline{)29}$ = 5 R 4

$5 \times 5 = 25$, $25 + 4 = 29$ ✓

Directions: Compute the **quotient** write it on the line and fill in the boxes to complete the model.

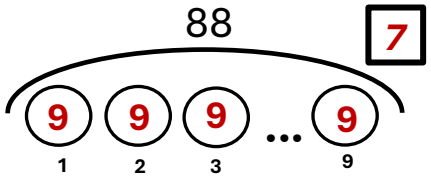
1.



$5\overline{)37}$? = 7 R 2

Note: It is 5 equal groups of 7 with a remainder of 2.

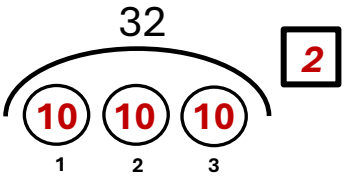
2.



$9\overline{)88}$? = 9 R 7

Note: It is 9 equal groups of 9 with a remainder of 7.

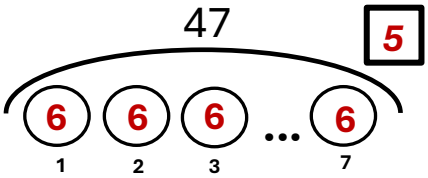
3.



$3\overline{)32}$? = 10 R 2

Note: It is 3 equal groups of 10 with a remainder of 2.

4.



$7\overline{)47}$? = 6 R 5

Note: It is 7 equal groups of 6 with a remainder of 5.

Section 3

Division Modeling with 2- and 3-digit Dividends – With and Without ***REMAINDERS***

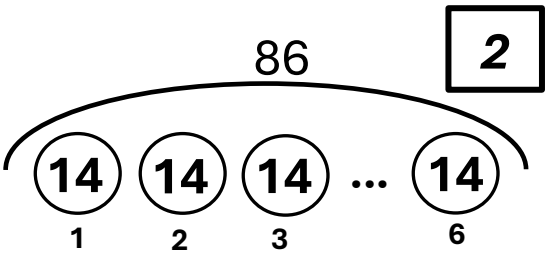
Physical and Conceptual Meaning of Division (Whole Numbers)

Student Practice Resource

Division Equation Modeling <u>With & Without Remainders</u> Practice – V1

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

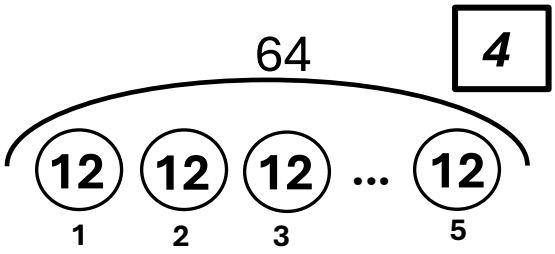
1.



$$6\overline{)86} \quad -6 \downarrow \quad 26 \quad -24 \quad 2 \qquad 14 \text{ R } 2$$

$$14 \times 6 = 84 \qquad 84 + 2 = 86 \checkmark$$

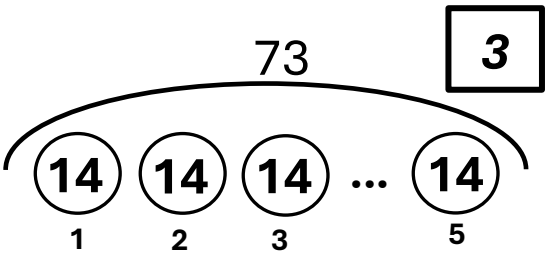
2.



$$5\overline{)64}$$

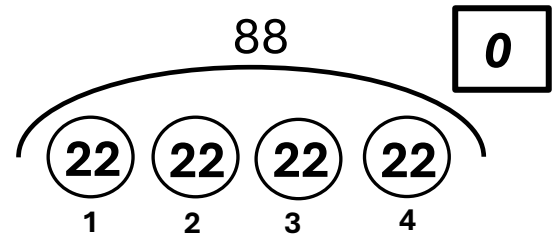
Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

1.



$$5\overline{)73} \qquad \text{R}$$

2.



$$4\overline{)88}$$

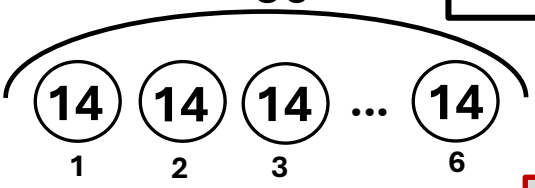
Division Equation Modeling With & Without Remainders Practice – V1

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

1.

86 | **2**



$$6\overline{)86} \quad 14\ R\ 2$$

$-6\downarrow$

26

-24

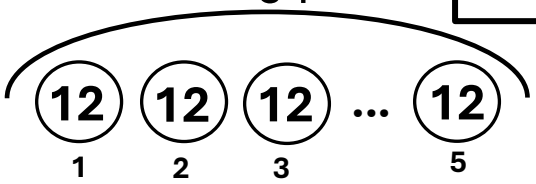
2

$14 \times 6 = 84$

$84 + 2 = 86$ ✓

2.

64 | **4**



$$5\overline{)64} \quad 12\ R\ 4$$

$-5\downarrow$

14

-10

4

$12 \times 5 = 60$

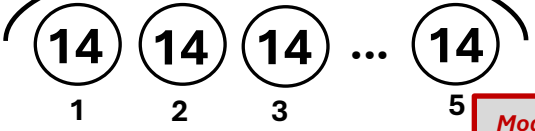
$60 + 4 = 64$ ✓

Practice in class PRIOR to using this resource, so students are adequately prepared for the rigor of the exercises.

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

1.

73 | **3**



$$5\overline{)73} \quad 14\ R\ 3$$

$-5\downarrow$

23

-20

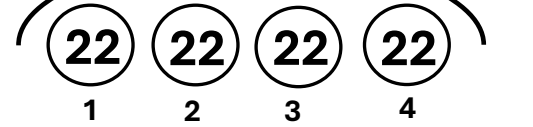
3

$14 \times 5 = 70$

$70 + 3 = 73$ ✓

2.

88 | **0**



$$4\overline{)88} \quad 22$$

$-8\downarrow$

8

-8

0

$22 \times 4 = 88$

$88 + 0 = 88$ ✓

Model in class – several problems each day before the core lesson.

Then, if needed, work the first one (1.) with your students on this page.

They only need sufficient learning opportunities and guidance.

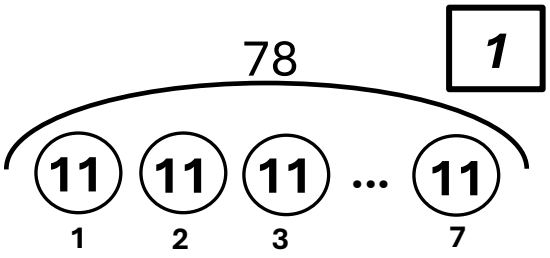
Math fact mastery is essential. Use Formative Loop so ALL students learn their math facts to automaticity.

Stress the equal groups...same...model meaning must be clear to students. Model works with any dividend or group size.

Division Equation Modeling <u>With & Without Remainders</u> Practice – V2

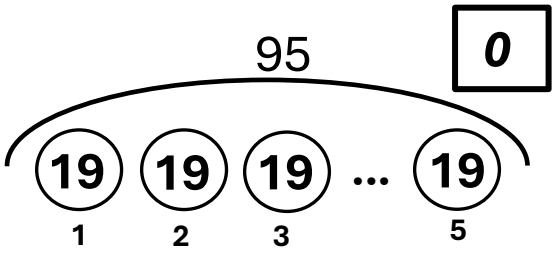
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$7\overline{)78}$ R

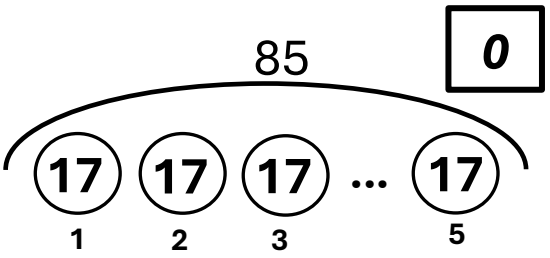
2.



$5\overline{)95}$

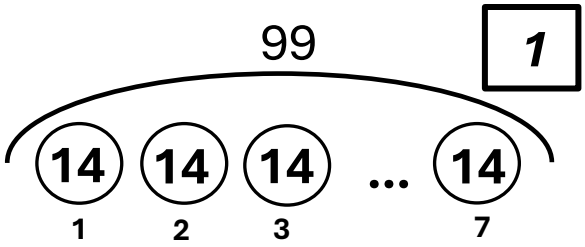
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$5\overline{)85}$

2.



$7\overline{)99}$ R

Division Equation Modeling With & Without Remainders Practice – V2

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

1. 78 — Remainder: **1**

(11) (11) (11) … (11)
Groups: 1, 2, 3, … 7

```
  11 R 1
7)78
 -7↓
   8
  -7
   1
```

$11 \times 7 = 77$; $77 + 1 = 78$ ✓

Practice in class PRIOR to using this resource, so students are adequately prepared for the rigor of the exercises.

2. 95 — Remainder: **0**

(19) (19) (19) … (19)
Groups: 1, 2, 3, … 5

```
  19
5)95
 -5↓
  45
 -45
   0
```

$19 \times 5 = 95$; $95 + 0 = 95$ ✓

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

1. 85 — Remainder: **0**

(17) (17) (17) … (17)
Groups: 1, 2, 3, … 5

```
  17
5)85
 -5↓
  35
 -35
   0
```

$17 \times 5 = 85$; $85 + 0 = 85$ ✓

Model in class – several problems each day before the core lesson.

Then, if needed, work the first one (1.) with your students on this page.

They only need sufficient learning opportunities and guidance.

Math fact mastery is essential. Use Formative Loop so ALL students learn their math facts to automaticity.

2. 99 — Remainder: **1**

(14) (14) (14) … (14)
Groups: 1, 2, 3, … 7

Stress the equal groups…same…model meaning must be clear to students. Model works with any dividend or group size.

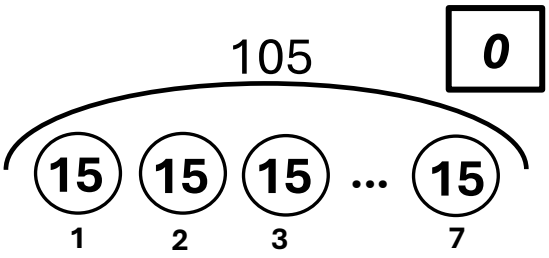
```
  14 R 1
7)99
 -7↓
  29
 -28
   1
```

$14 \times 7 = 98$; $98 + 1 = 99$ ✓

Division Equation Modeling <u>With & Without Remainders</u> Practice – V3

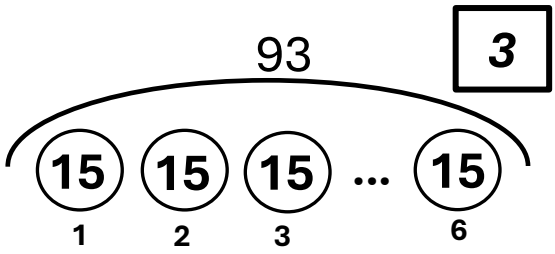
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$7\overline{)105}$

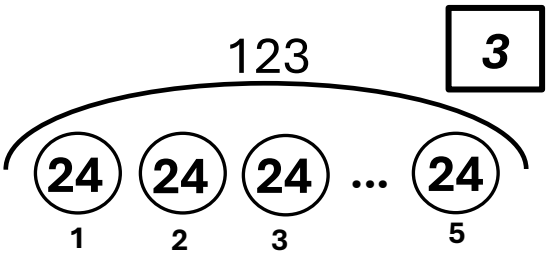
2.



$6\overline{)93}\ R$

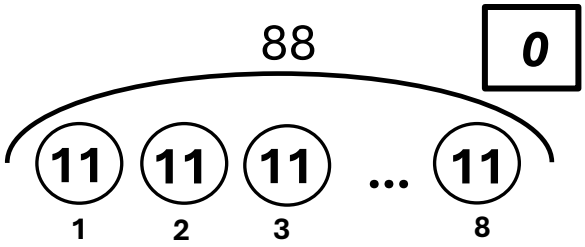
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$5\overline{)123}\ R$

2.



$8\overline{)88}$

Division Equation Modeling With & Without Remainders Practice – V3

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

1. 105 | **0**

15 (1) 15 (2) 15 (3) ... 15 (7)

$$7\overline{)105}\quad -7\downarrow\quad 35\quad -35\quad 0$$

$$15 \times 7 = 105 + 0 = 105 \checkmark$$

2. 93 | **3**

15 (1) 15 (2) 15 (3) ... 15 (6)

$$6\overline{)93}\quad -6\downarrow\quad 33\quad -30\quad 3$$

$$15 \times 6 = 90 + 3 = 93 \checkmark$$

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

1. 123 | **3**

24 (1) 24 (2) 24 (3) ... 24 (5)

$$5\overline{)123}\quad -10\downarrow\quad 23\quad -20\quad 3$$

$$24 \times 5 = 120 + 3 = 123 \checkmark$$

2. 88 | **0**

11 (1) 11 (2) 11 (3) ... 11 (8)

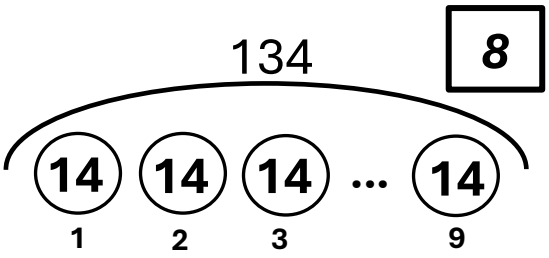
$$8\overline{)88}\quad -8\downarrow\quad 8\quad -8\quad 0$$

$$11 \times 8 = 88 + 0 = 88 \checkmark$$

Division Equation Modeling <u>With & Without Remainders</u> Practice – V4

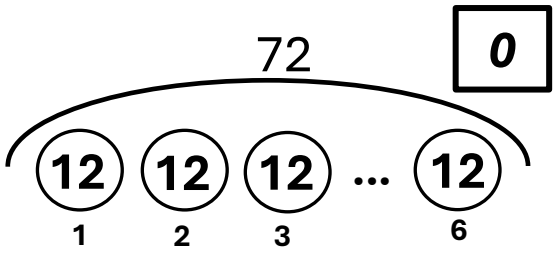
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$9\overline{)134}$

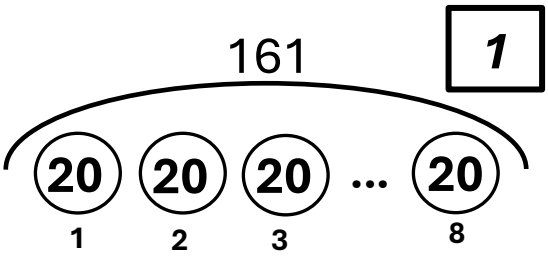
2.



$6\overline{)72}$

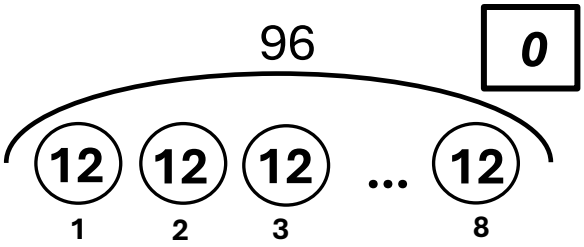
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$8\overline{)161}$

2.



$8\overline{)96}$

Division Equation Modeling With & Without Remainders Practice – V4

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

1.

134 — remainder box: **8**

(14) (14) (14) … (14)
1 2 3 … 9

$$\begin{array}{r} 14 \text{ R } 8 \\ 9 \overline{)134} \\ -\underline{9} \\ 44 \\ -\underline{36} \\ 8 \end{array}$$

$$\begin{array}{r} 14 \\ \times\ \underline{9} \\ 126 \\ +\ \underline{8} \\ 134 \end{array} \checkmark$$

2.

72 — remainder box: **0**

(12) (12) (12) … (12)
1 2 3 … 6

$$\begin{array}{r} 12 \\ 6 \overline{)72} \\ -\underline{6} \\ 12 \\ -\underline{12} \\ 0 \end{array}$$

$$\begin{array}{r} 12 \\ \times\ \underline{6} \\ 72 \\ +\ \underline{0} \\ 72 \end{array} \checkmark$$

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

1.

161 — remainder box: **1**

(20) (20) (20) … (20)
1 2 3 … 8

$$\begin{array}{r} 20 \text{ R } 1 \\ 8 \overline{)161} \\ -\underline{16} \\ 1 \\ -\underline{0} \\ 1 \end{array}$$

$$\begin{array}{r} 20 \\ \times\ \underline{8} \\ 160 \\ +\ \underline{1} \\ 161 \end{array} \checkmark$$

2.

96 — remainder box: **0**

(12) (12) (12) … (12)
1 2 3 … 8

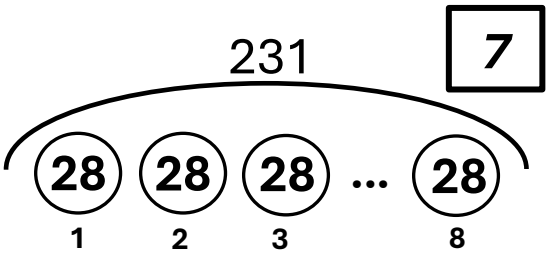
$$\begin{array}{r} 12 \\ 8 \overline{)96} \\ -\underline{8} \\ 16 \\ -\underline{16} \\ 0 \end{array}$$

$$\begin{array}{r} 12 \\ \times\ \underline{8} \\ 96 \\ +\ \underline{0} \\ 96 \end{array} \checkmark$$

Division Equation Modeling <u>With & Without Remainders</u> Practice – V5

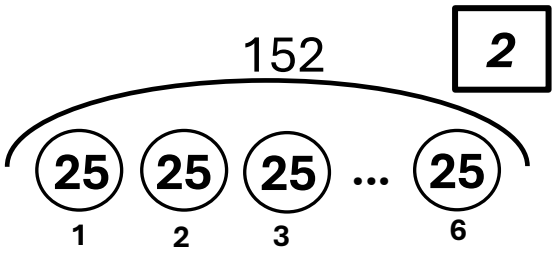
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$8\overline{)231}$

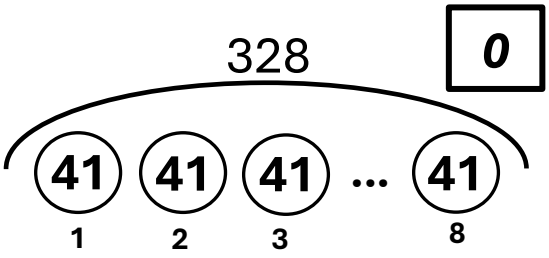
2.



$6\overline{)152}$

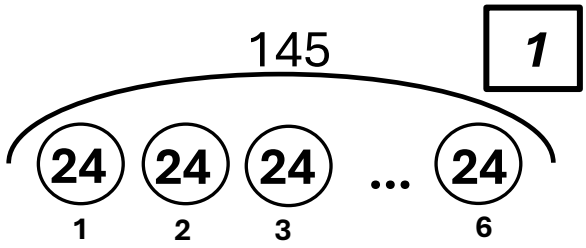
Directions: ***<u>Solve</u>*** the division equation based on the model. ***<u>Check</u>*** equation by multiplication.

1.



$8\overline{)328}$

2.



$6\overline{)145}$

Division Equation Modeling With & Without Remainders Practice – V5

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

ANSWER KEY

1.

231 | **7**

28 (1) 28 (2) 28 (3) ... 28 (8)

$$\begin{array}{r} 28\ R\ 7 \\ 8\overline{)231} \\ -16\downarrow \\ \hline 71 \\ -64 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 28 \\ \times\ 8 \\ \hline 224 \\ +\ 7 \\ \hline 231 \end{array}\ \checkmark$$

2.

152 | **2**

25 (1) 25 (2) 25 (3) ... 25 (6)

$$\begin{array}{r} 25\ R\ 2 \\ 6\overline{)152} \\ -12\downarrow \\ \hline 32 \\ -30 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 25 \\ \times\ 6 \\ \hline 150 \\ +\ 2 \\ \hline 152 \end{array}\ \checkmark$$

Directions: ***Solve*** the division equation based on the model. ***Check*** equation by multiplication.

1.

328 | **0**

41 (1) 41 (2) 41 (3) ... 41 (8)

$$\begin{array}{r} 41 \\ 8\overline{)328} \\ -32\downarrow \\ \hline 8 \\ -8 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 41 \\ \times\ 8 \\ \hline 328 \\ +\ 0 \\ \hline 328 \end{array}\ \checkmark$$

2.

145 | **1**

24 (1) 24 (2) 24 (3) ... 24 (6)

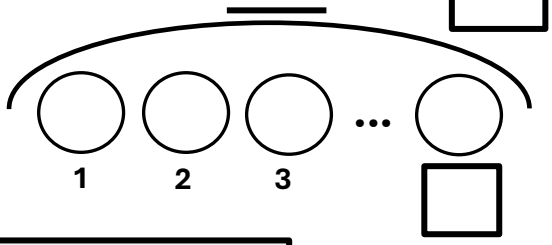
$$\begin{array}{r} 24\ R\ 1 \\ 6\overline{)145} \\ -12\downarrow \\ \hline 25 \\ -24 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 24 \\ \times\ 6 \\ \hline 144 \\ +\ 1 \\ \hline 145 \end{array}\ \checkmark$$

Division Equation Modeling <u>With & Without Remainders</u> Practice – V6

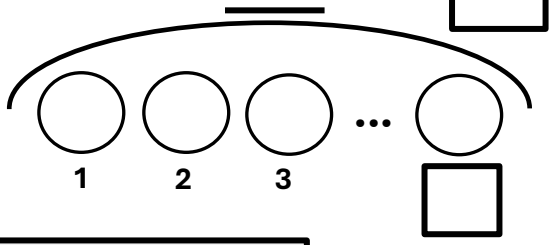
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$7\overline{)168}$

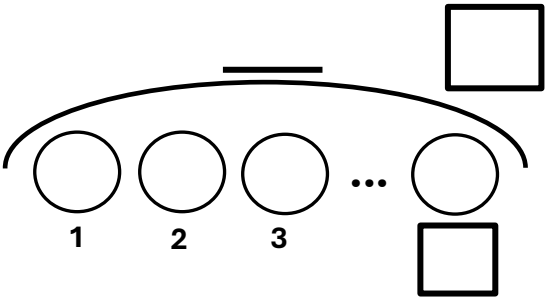
2.



$6\overline{)232}$

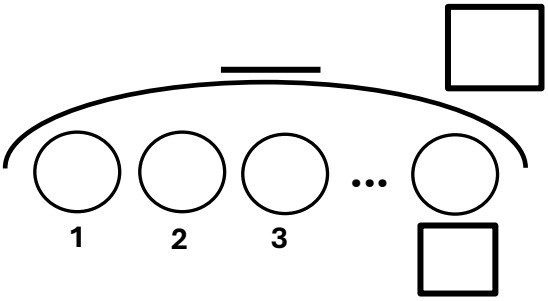
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$9\overline{)409}$

2.



$8\overline{)231}$

Division Equation Modeling With & Without Remainders Practice – V6

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

ANSWER KEY

1. 168 | 0

24 (1) 24 (2) 24 (3) ... 24 | 7

$$7\overline{)168} \quad 24 \text{ R } 0$$
$$-14$$
$$28$$
$$-28$$
$$0$$

$24 \times 7 = 168 + 0 = 168$ ✓

2. 232 | 4

38 (1) 38 (2) 38 (3) ... 38 | 6

$$6\overline{)232} \quad 38 \text{ R } 4$$
$$-18$$
$$52$$
$$-48$$
$$4$$

$38 \times 6 = 228 + 4 = 232$ ✓

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1. 409 | 4

45 (1) 45 (2) 45 (3) ... 45 | 9

$$9\overline{)409} \quad 45 \text{ R } 4$$
$$-36$$
$$49$$
$$-45$$
$$4$$

$45 \times 9 = 405 + 4 = 409$ ✓

2. 231 | 7

28 (1) 28 (2) 28 (3) ... 28 | 8

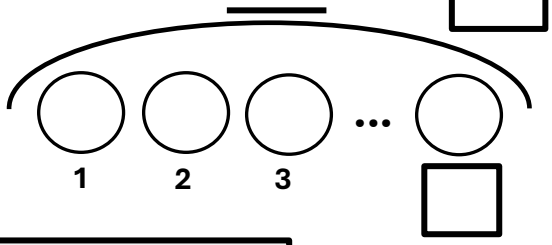
$$8\overline{)231} \quad 28 \text{ R } 7$$
$$-16$$
$$71$$
$$-64$$
$$7$$

$28 \times 8 = 224 + 7 = 231$ ✓

Division Equation Modeling <u>With & Without Remainders</u> Practice – V7

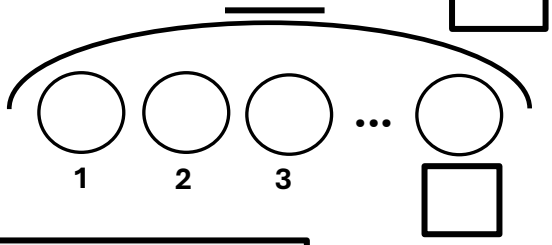
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$8\overline{)440}$

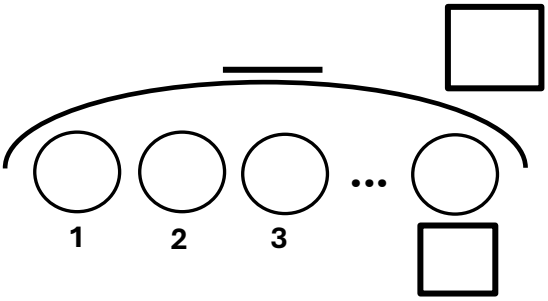
2.



$6\overline{)571}$

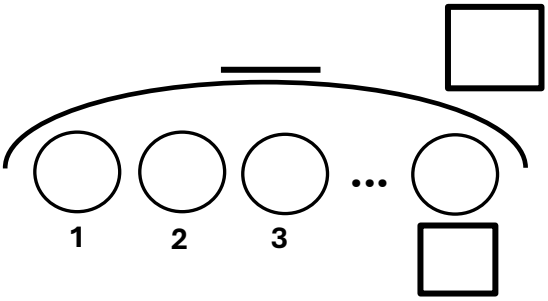
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$4\overline{)368}$

2.



$8\overline{)257}$

Division Equation Modeling With & Without Remainders Practice – V7

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

ANSWER KEY

1.

440 | 0

55 55 55 ... 55

1 2 3 | 8

$$\begin{array}{r} 55 \\ 8\overline{)440} \\ -40\downarrow \\ \hline 40 \\ -40 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 55 \\ \times\ 8 \\ \hline 440 \\ +\ 0 \\ \hline 440 \end{array} \checkmark$$

2.

571 | 1

95 95 95 ... 95

1 2 3 | 6

$$\begin{array}{r} 95\ R\ 1 \\ 6\overline{)571} \\ -54\downarrow \\ \hline 31 \\ -30 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 95 \\ \times\ 6 \\ \hline 570 \\ +\ 1 \\ \hline 571 \end{array} \checkmark$$

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.

368 | 0

92 92 92 ... 92

1 2 3 | 4

$$\begin{array}{r} 92 \\ 4\overline{)368} \\ -36\downarrow \\ \hline 8 \\ -8 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 92 \\ \times\ 4 \\ \hline 368 \\ +\ 0 \\ \hline 368 \end{array} \checkmark$$

2.

257 | 1

32 32 32 ... 32

1 2 3 | 8

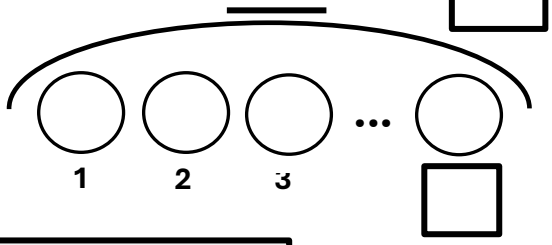
$$\begin{array}{r} 32\ R\ 1 \\ 8\overline{)257} \\ -24\downarrow \\ \hline 17 \\ -16 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 32 \\ \times\ 8 \\ \hline 256 \\ +\ 1 \\ \hline 257 \end{array} \checkmark$$

Division Equation Modeling <u>With & Without Remainders</u> Practice – V8

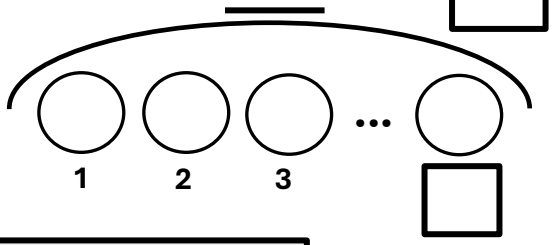
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$5\overline{)890}$

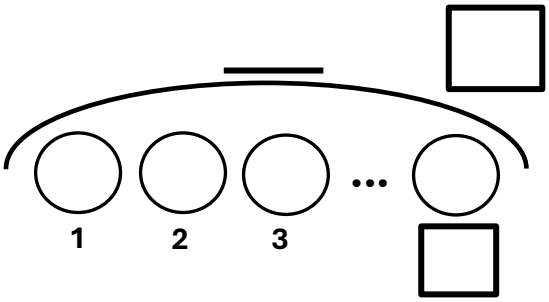
2.



$5\overline{)607}$

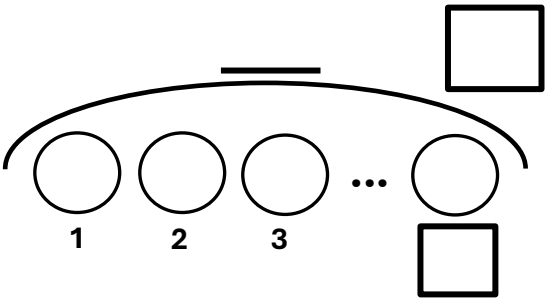
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$7\overline{)456}$

2.



$5\overline{)104}$

Division Equation Modeling With & Without Remainders Practice – V8

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

ANSWER KEY

1.

890 | 0

(178) (178) (178) … (178)
1 2 3 … 5

$5\overline{)890}$ = 178

- 5
- 39
- − 35
- 40
- 40
- 0

Check: 178 × 5 = 890; 890 + 0 = 890 ✓

2.

607 | 2

(121) (121) (121) … (121)
1 2 3 … 5

$5\overline{)607}$ = 121 R 2

- − 5
- 10
- − 10
- 7
- − 5
- 2

Check: 121 × 5 = 605; 605 + 2 = 607 ✓

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.

456 | 1

(65) (65) (65) … (65)
1 2 3 … 7

$7\overline{)456}$ = 65 R 1

- − 42
- 36
- − 35
- 1

Check: 65 × 7 = 455; 455 + 1 = 456 ✓

2.

104 | 4

(20) (20) (20) … (20)
1 2 3 … 5

$5\overline{)104}$ = 20 R 4

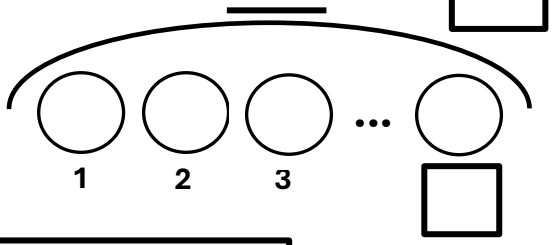
- − 10
- 4
- − 0
- 4

Check: 20 × 5 = 100; 100 + 4 = 104 ✓

Division Equation Modeling <u>With & Without Remainders</u> Practice – V9

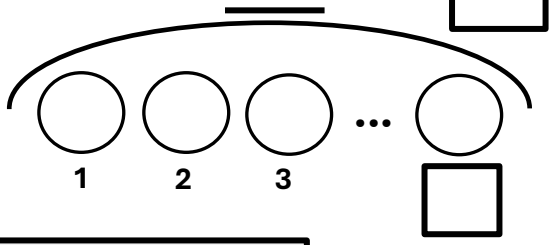
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$7\overline{)753}$

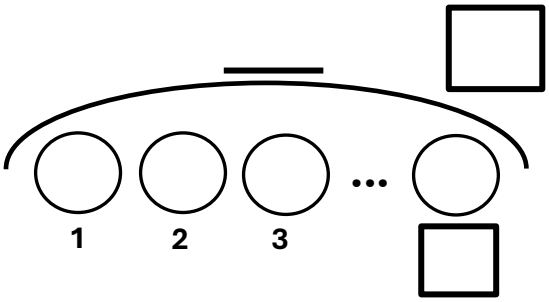
2.



$6\overline{)354}$

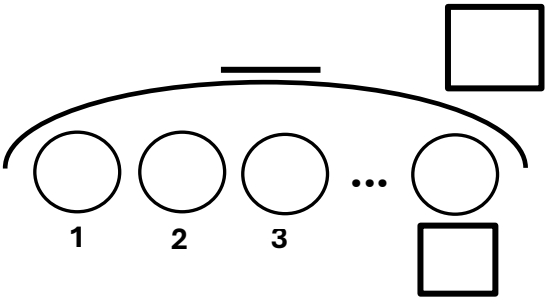
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$5\overline{)333}$

2.



$8\overline{)872}$

Division Equation Modeling With & Without Remainders Practice – V9

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

ANSWER KEY

1. 753 = 4

107 + 107 + 107 + ... + 107 + 7

1 2 3

$$\begin{array}{r} 107\ R\ 4 \\ 7\overline{)753} \\ -7\downarrow \\ 5 \\ -\ 0\downarrow \\ 53 \\ 49 \\ 4 \end{array}$$

$$\begin{array}{r} 107 \\ \times\ 7 \\ \hline 749 \\ +\ 4 \\ \hline 753 \end{array}\ \checkmark$$

2. 354 = 0

59 + 59 + 59 + ... + 59 + 6

1 2 3

$$\begin{array}{r} 59 \\ 6\overline{)354} \\ -30\downarrow \\ 54 \\ -54 \\ 0 \end{array}$$

$$\begin{array}{r} 59 \\ \times\ 6 \\ \hline 354 \\ +\ 0 \\ \hline 354 \end{array}\ \checkmark$$

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1. 333 = 3

66 + 66 + 66 + ... + 66 + 5

1 2 3

$$\begin{array}{r} 66\ R\ 3 \\ 5\overline{)333} \\ -30\downarrow \\ 33 \\ -30 \\ 3 \end{array}$$

$$\begin{array}{r} 66 \\ \times\ 5 \\ \hline 330 \\ +\ 3 \\ \hline 333 \end{array}\ \checkmark$$

2. 872 = 0

109 + 109 + 109 + ... + 109 + 8

1 2 3

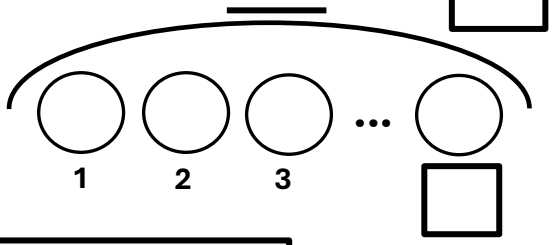
$$\begin{array}{r} 109 \\ 8\overline{)872} \\ -8\downarrow \\ 7 \\ -0\downarrow \\ 72 \\ 72 \\ 0 \end{array}$$

$$\begin{array}{r} 109 \\ \times\ 8 \\ \hline 872 \\ +\ 0 \\ \hline 872 \end{array}\ \checkmark$$

Division Equation Modeling <u>With & Without Remainders</u> Practice – V10

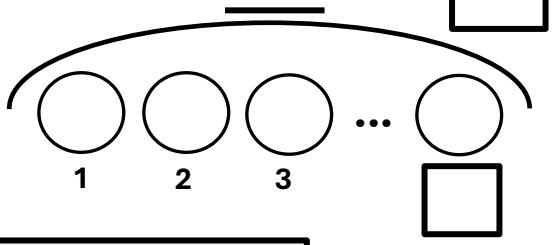
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$6\overline{)427}$

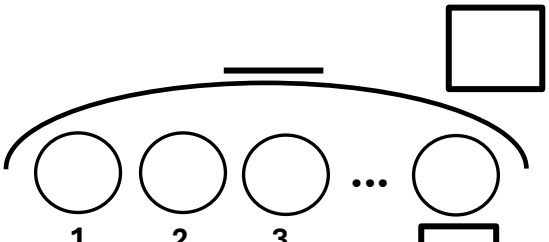
2.



$6\overline{)216}$

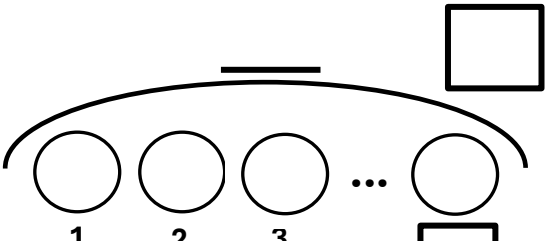
Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.



$9\overline{)661}$

2.



$5\overline{)782}$

Division Equation Modeling With & Without Remainders Practice – V10

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

ANSWER KEY

1.

427 = 1

71 + 71 + 71 + ... + 71 = 6

1 2 3

$$6\overline{)427} \quad 71 \text{ R } 1$$
$$-42$$
$$7$$
$$-6$$
$$1$$

$71 \times 6 = 426$, $426 + 1 = 427$ ✓

2.

216 = 0

36 + 36 + 36 + ... + 36 = 6

1 2 3

$$6\overline{)216} \quad 36$$
$$-18$$
$$36$$
$$-36$$
$$0$$

$36 \times 6 = 216$, $216 + 0 = 216$ ✓

Directions: ***Solve*** the division equation and **complete** the model. ***Check*** division by multiplication.

1.

661 = 4

73 + 73 + 73 + ... + 73 = 9

1 2 3

$$9\overline{)661} \quad 73 \text{ R } 4$$
$$-63$$
$$31$$
$$-27$$
$$4$$

$73 \times 9 = 657$, $657 + 4 = 661$ ✓

2.

782 = 2

156 + 156 + 156 + ... + 156 = 5

1 2 3

$$5\overline{)782} \quad 156 \text{ R } 2$$
$$-5$$
$$28$$
$$-25$$
$$32$$
$$-30$$
$$2$$

$156 \times 5 = 780$, $780 + 2 = 782$ ✓

Appendix

Multiples 1 and 2 Practice Sheets

Find The Missing Factor Practice Sheets

Classwork and Homework Practice

Also, use resources as student assessment (i.e., 5-minute time frame to demonstrate student mastery).

Multiples Challenge 1 – (1 through 12)

<u>Directions:</u> In 5 minutes, fill in the table with the correct multiples by skip counting downward.

1	2	3	4	5	6	7	8	9	10	11	12
0	*0*	*0*	*0*	*0*	*0*						
1	*2*	*3*	*4*								
2	*4*	*6*									
3	*6*										
4											
5											
6											
7											
8											
9											
10											
11											
12											

Multiples Challenge 1 – (1 through 12)

Directions: **In 5 minutes, fill in the table with the correct multiples by skip counting downward.**

1	2	3	4	5	6	7	8	9	10	11	12
0	*0*	*0*	*0*	*0*	*0*	**0**	**0**	**0**	**0**	**0**	**0**
1	*2*	*3*	*4*	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2	*4*	*6*	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**22**	**24**
3	*6*	**9**	**12**	**15**	**18**	**21**	**24**	**27**	**30**	**33**	**36**
4	**8**	**12**	**16**	**20**	**24**	**28**	**32**	**36**	**40**	**44**	**48**
5	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**
6	**12**	**18**	**24**	**30**	**36**	**42**	**48**	**54**	**60**	**66**	**72**
7	**14**	**21**	**28**	**35**	**42**	**49**	**56**	**63**	**70**	**77**	**84**
8	**16**	**24**	**32**	**40**	**48**	**56**	**64**	**72**	**80**	**88**	**96**
9	**18**	**27**	**36**	**45**	**54**	**63**	**72**	**81**	**90**	**99**	**108**
10	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**
11	**22**	**33**	**44**	**55**	**66**	**77**	**88**	**99**	**110**	**121**	**132**
12	**24**	**36**	**48**	**60**	**72**	**84**	**96**	**108**	**120**	**132**	**144** ★

MULTIPLES 1-12 *Name*_____

1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0					
1	2	3	4	5							
2	4	6									
3	6										
4											
5											
6											
7											
8											
9											
10											
11											
12											

MULTIPLES 1-12 *Name*_____

1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0					
1	2	3	4	5							
2	4	6									
3	6										
4											
5											
6											
7											
8											
9											
10											
11											
12											

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Multiples Challenge 2 – (10 through 90)

<u>Directions:</u> In 5 minutes, fill in the table with the correct multiples by skip counting downward.

(Hint 1: Think about counting by 1's, 2's, 3's, 4's, 5's 6's, 7's, 8's, and 9's. Then add a zero.)
Example: 2, 4, 6, 8… Then, add a zero to get - 20, 40, 60, 80…

(Hint 2: Practice the 25's and 75's in small segments until you can do them all in order.
Example: 0, 25, 50 Then, 0, 25, 50, 75… adding a number, and you will be fast.

10	15	20	25	30	40	50	60	70	75	80	90
0	*0*										
10											
20											

Multiples Challenge 2 – (10 through 90)

Directions: **In 5 minutes, fill in the table with the correct multiples by skip counting downward.**

(Hint 1: Think about counting by 1's, 2's, 3's, 4's, 5's 6's, 7's, 8's, and 9's. Then add a zero.)
Example: 2, 4, 6, 8… Then, add a zero to get - 20, 40, 60, 80…

(Hint 2: Practice the 25's and 75's in small segments until you can do them all in order.
Example: 0, 25, 50 Then, 0, 25, 50, 75… adding a number, and you will be fast.

10	15	20	25	30	40	50	60	70	75	80	90
0	*0*	0	0	0	0	0	0	0	0	0	0
10	15	20	25	30	40	50	60	70	75	80	90
20	30	40	50	60	80	100	120	140	150	160	180
30	45	60	75	90	120	150	180	210	225	240	270
40	60	80	100	120	160	200	240	280	300	320	360
50	75	100	125	150	200	250	300	350	375	400	450
60	90	120	150	180	240	300	360	420	450	480	540
70	105	140	175	210	280	350	420	490	525	560	630
80	120	160	200	240	320	400	480	540	600	640	720
90	135	180	225	270	360	450	540	630	675	720	810
100 ★	150 ★	200 ★	250 ★	300 ★	400 ★	500 ★	600 ★	700 ★	750 ★	800 ★	900 ★

MULTIPLES 2 Skip count downwards and correctly fill in the blanks. *Name*_____

12	15	20	25	30	40	50	60	70	75	80	90
0	0	0	0	0	0	0	0	0	0	0	0
12	15	20									
24	30										
36											

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MULTIPLES 2 Skip count downwards and correctly fill in the blanks. *Name*_____

12	15	20	25	30	40	50	60	70	75	80	90
0	0	0	0	0	0	0	0	0	0	0	0
12	15	20									
24	30										
36											

 Available at Formative Loop.

FIND THE MISSING FACTOR – 1, 2, and 3

Directions: **Fill in the factor that makes the number sentence mathematically correct.**

1 x ____ = 3	2 x ____ = 2	2 x ____ = 12	2 x ____ = 6
2 x ____ = 4	3 x ____ = 24	2 x ____ = 6	3 x ____ = 30
3 x ____ = 12	2 x ____ = 20	2 x ____ = 8	2 x ____ = 18
2 x ____ = 18	3 x ____ = 18	3 x ____ = 24	3 x ____ = 15
3 x ____ = 9	3 x ____ = 30	3 x ____ = 27	2 x ____ = 12
1 x ____ = 2	2 x ____ = 14	1 x ____ = 2	3 x ____ = 15
3 x ____ = 15	3 x ____ = 24	3 x ____ = 12	3 x ____ = 27
2 x ____ = 12	2 x ____ = 8	2 x ____ = 16	2 x ____ = 4
3 x ____ = 21	3 x ____ = 30	3 x ____ = 18	3 x ____ = 24
2 x ____ = 10	2 x ____ = 12	2 x ____ = 6	2 x ____ = 2
1 x ____ = 1	1 x ____ = 3	2 x ____ = 10	2 x ____ = 14
2 x ____ = 18	2 x ____ = 22	2 x ____ = 20	3 x ____ = 12
3 x ____ = 24	2 x ____ = 20	2 x ____ = 24	2 x ____ = 16
2 x ____ = 6	2 x ____ = 8	3 x ____ = 6	2 x ____ = 10
3 x ____ = 15	3 x ____ = 12	3 x ____ = 21	3 x ____ = 21
2 x ____ = 8	2 x ____ = 4	2 x ____ = 24	2 x ____ = 10
3 x ____ = 3	1 x ____ = 2	2 x ____ = 2	1 x ____ = 3
2 x ____ = 4	2 x ____ = 16	2 x ____ = 8	2 x ____ = 12
1 x ____ = 2	3 x ____ = 9	1 x ____ = 2	3 x ____ = 12
2 x ____ = 14	1 x ____ = 1	2 x ____ = 2	3 x ____ = 24
3 x ____ = 27	2 x ____ = 24	3 x ____ = 30	2 x ____ = 24
3 x ____ = 30	3 x ____ = 27	2 x ____ = 24	3 x ____ = 27
2 x ____ = 16	2 x ____ = 18	2 x ____ = 14	2 x ____ = 12
1 x ____ = 3	2 x ____ = 20	3 x ____ = 9	2 x ____ = 20

FIND THE MISSING FACTOR – 1, 2, and 3

Directions: **Fill in the factor that makes the number sentence mathematically correct.**

1 x 3 = 3	2 x 1 = 2	2 x 6 = 12	2 x 3 = 6
2 x 2 = 4	3 x 8 = 24	2 x 3 = 6	3 x 10 = 30
3 x 4 = 12	2 x 10 = 20	2 x 4 = 8	2 x 9 = 18
2 x 9 = 18	3 x 6 = 18	3 x 8 = 24	3 x 5 = 15
3 x 3 = 9	3 x 10 = 30	3 x 9 = 27	2 x 6 = 12
1 x 2 = 2	2 x 7 = 14	1 x 2 = 2	3 x 5 = 15
3 x 5 = 15	3 x 8 = 24	3 x 4 = 12	3 x 9 = 27
2 x 6 = 12	2 x 4 = 8	2 x 8 = 16	2 x 2 = 4
3 x 7 = 21	3 x 10 = 30	3 x 6 = 18	3 x 8 = 24
2 x 5 = 10	2 x 6 = 12	2 x 3 = 6	2 x 1 = 2
1 x 1 = 1	1 x 3 = 3	2 x 5 = 10	2 x 7 = 14
2 x 9 = 18	2 x 11 = 22	2 x 10 = 20	3 x 4 = 12
3 x 8 = 24	2 x 10 = 20	2 x 12 = 24	2 x 8 = 16
2 x 3 = 6	2 x 4 = 8	3 x 2 = 6	2 x 5 = 10
3 x 5 = 15	3 x 4 = 12	3 x 7 = 21	3 x 7 = 21
2 x 4 = 8	2 x 2 = 4	2 x 12 = 24	2 x 5 = 10
3 x 1 = 3	1 x 2 = 2	2 x 1 = 2	1 x 3 = 3
2 x 2 = 4	2 x 8 = 16	2 x 4 = 8	2 x 6 = 12
1 x 2 = 2	3 x 3 = 9	1 x 2 = 2	3 x 4 = 12
2 x 7 = 14	1 x 1 = 1	2 x 1 = 2	3 x 2 = 24
3 x 9 = 27	2 x 12 = 24	3 x 10 = 30	2 x 12 = 24
3 x 10 = 30	3 x 9 = 27	2 x 12 = 24	3 x 9 = 27
2 x 8 = 16	2 x 9 = 18	2 x 7 = 14	2 x 6 = 12
1 x 3 = 3	2 x 10 = 20	3 x 3 = 9	★ 2 x 10 = 20

FIND THE MISSING FACTOR – 4, 5, and 6

Directions: **Fill in the factor that makes the number sentence mathematically correct.**

1 x ____ = 4	5 x ____ = 5	6 x ____ = 12	6 x ____ = 6
4 x ____ = 8	4 x ____ = 24	6 x ____ = 6	6 x ____ = 30
6 x ____ = 12	6 x ____ = 48	4 x ____ = 8	5 x ____ = 30
5 x ____ = 15	4 x ____ = 24	5 x ____ = 40	6 x ____ = 54
6 x ____ = 18	5 x ____ = 30	5 x ____ = 30	6 x ____ = 60
1 x ____ = 6	4 x ____ = 8	1 x ____ = 6	5 x ____ = 55
5 x ____ = 15	5 x ____ = 45	6 x ____ = 54	4 x ____ = 20
4 x ____ = 12	4 x ____ = 8	6 x ____ = 18	5 x ____ = 40
4 x ____ = 24	4 x ____ = 40	4 x ____ = 20	5 x ____ = 45
6 x ____ = 54	5 x ____ = 25	6 x ____ = 48	6 x ____ = 54
5 x ____ = 10	6 x ____ = 36	4 x ____ = 12	4 x ____ = 12
4 x ____ = 20	4 x ____ = 24	5 x ____ = 20	5 x ____ = 15
5 x ____ = 20	4 x ____ = 28	6 x ____ = 24	4 x ____ = 16
6 x ____ = 6	5 x ____ = 35	6 x ____ = 6	5 x ____ = 50
6 x ____ = 18	6 x ____ = 54	5 x ____ = 10	6 x ____ = 66
5 x ____ = 30	6 x ____ = 42	4 x ____ = 24	5 x ____ = 10
6 x ____ = 36	1 x ____ = 5	6 x ____ = 48	1 x ____ = 5
4 x ____ = 4	4 x ____ = 16	6 x ____ = 18	4 x ____ = 12
6 x ____ = 24	5 x ____ = 35	1 x ____ = 5	5 x ____ = 45
4 x ____ = 12	1 x ____ = 6	5 x ____ = 5	6 x ____ = 24
4 x ____ = 40	4 x ____ = 12	5 x ____ = 30	6 x ____ = 54
5 x ____ = 50	6 x ____ = 30	4 x ____ = 24	6 x ____ = 36
4 x ____ = 16	5 x ____ = 15	5 x ____ = 25	5 x ____ = 25
1 x ____ = 6	4 x ____ = 40	6 x ____ = 54	6 x ____ = 54

FIND THE MISSING FACTOR – 4, 5, and 6

Directions: **Fill in the factor that makes the number sentence mathematically correct.**

1 x 4 = 4	5 x 1 = 5	6 x 2 = 12	6 x 1 = 6
4 x 2 = 8	4 x 6 = 24	6 x 1 = 6	6 x 5 = 30
6 x 2 = 12	6 x 8 = 48	4 x 2 = 8	5 x 6 = 30
5 x 3 = 15	4 x 6 = 24	5 x 8 = 40	6 x 9 = 54
6 x 3 = 18	5 x 6 = 30	5 x 6 = 30	6 x 10 = 60
1 x 6 = 6	4 x 2 = 8	1 x 6 = 6	5 x 11 = 55
5 x 3 = 15	5 x 9 = 45	6 x 9 = 54	4 x 5 = 20
4 x 3 = 12	4 x 2 = 8	6 x 3 = 18	5 x 8 = 40
4 x 6 = 24	4 x 10 = 40	4 x 5 = 20	5 x 9 = 45
6 x 9 = 54	5 x 5 = 25	6 x 8 = 48	6 x 9 = 54
5 x 2 = 10	6 x 6 = 36	4 x 3 = 12	4 x 3 = 12
4 x 5 = 20	4 x 6 = 24	5 x 4 = 20	5 x 3 = 15
5 x 4 = 20	4 x 7 = 28	6 x 4 = 24	4 x 4 = 16
6 x 1 = 6	5 x 7 = 35	6 x 1 = 6	5 x 10 = 50
6 x 3 = 18	6 x 9 = 54	5 x 2 = 10	6 x 11 = 66
5 x 6 = 30	6 x 7 = 42	4 x 6 = 24	5 x 2 = 10
6 x 6 = 36	1 x 5 = 5	6 x 8 = 48	1 x 5 = 5
4 x 1 = 4	4 x 4 = 16	6 x 3 = 18	4 x 3 = 12
6 x 4 = 24	5 x 7 = 35	1 x 5 = 5	5 x 9 = 45
4 x 3 = 12	1 x 6 = 6	5 x 1 = 5	6 x 4 = 24
4 x 10 = 40	4 x 3 = 12	5 x 6 = 30	6 x 9 = 54
5 x 10 = 50	6 x 5 = 30	4 x 6 = 24	6 x 6 = 36
4 x 4 = 16	5 x 3 = 15	5 x 5 = 25	5 x 5 = 25
1 x 6 = 6	4 x 10 = 40	6 x 9 = 54	★ 6 x 9 = 54

FIND THE MISSING FACTOR – 7, 8, and 9

Directions: **Fill in the factor that makes the number sentence mathematically correct.**

1 x ____ = 7	9 x ____ = 9	9 x ____ = 18	7 x ____ = 63
7 x ____ = 7	7 x ____ = 28	7 x ____ = 7	8 x ____ = 56
8 x ____ = 16	8 x ____ = 48	9 x ____ = 18	7 x ____ = 49
7 x ____ = 14	7 x ____ = 28	7 x ____ = 49	9 x ____ = 54
9 x ____ = 18	8 x ____ = 64	8 x ____ = 80	7 x ____ = 70
1 x ____ = 8	7 x ____ = 7	1 x ____ = 7	8 x ____ = 88
8 x ____ = 24	9 x ____ = 45	7 x ____ = 14	6 x ____ = 18
7 x ____ = 21	7 x ____ = 14	8 x ____ = 32	7 x ____ = 49
8 x ____ = 24	9 x ____ = 63	8 x ____ = 24	9 x ____ = 45
9 x ____ = 36	7 x ____ = 70	7 x ____ = 49	7 x ____ = 7
7 x ____ = 70	8 x ____ = 32	8 x ____ = 64	9 x ____ = 81
7 x ____ = 21	9 x ____ = 27	9 x ____ = 72	8 x ____ = 80
8 x ____ = 32	7 x ____ = 28	8 x ____ = 72	7 x ____ = 14
7 x ____ = 42	8 x ____ = 64	7 x ____ = 49	8 x ____ = 24
9 x ____ = 90	7 x ____ = 63	8 x ____ = 16	7 x ____ = 77
9 x ____ = 54	9 x ____ = 54	9 x ____ = 27	8 x ____ = 16
7 x ____ = 42	1 x ____ = 9	8 x ____ = 48	1 x ____ = 8
9 x ____ = 9	7 x ____ = 42	7 x ____ = 35	7 x ____ = 70
7 x ____ = 56	9 x ____ = 90	1 x ____ = 9	7 x ____ = 56
8 x ____ = 56	1 x ____ = 8	7 x ____ = 7	8 x ____ = 24
8 x ____ = 72	8 x ____ = 56	7 x ____ = 35	7 x ____ = 35
7 x ____ = 49	7 x ____ = 63	8 x ____ = 24	8 x ____ = 56
8 x ____ = 16	8 x ____ = 64	9 x ____ = 63	7 x ____ = 49
1 x ____ = 9	7 x ____ = 35	8 x ____ = 64	8 x ____ = 72

FIND THE MISSING FACTOR – 7, 8, and 9

Directions: **Fill in the factor that makes the number sentence mathematically correct.**

1 x 7 = 7	9 x 1 = 9	9 x 2 = 18	7 x 9 = 63
7 x 1 = 7	7 x 4 = 28	7 x 1 = 7	8 x 7 = 56
8 x 2 = 16	8 x 6 = 48	9 x 2 = 18	7 x 7 = 49
7 x 2 = 14	7 x 4 = 28	7 x 7 = 49	9 x 6 = 54
9 x 2 = 18	8 x 8 = 64	8 x 10 = 80	7 x 10 = 70
1 x 8 = 8	7 x 1 = 7	1 x 7 = 7	8 x 11 = 88
8 x 3 = 24	9 x 5 = 45	7 x 2 = 14	6 x 3 = 18
7 x 3 = 21	7 x 2 = 14	8 x 4 = 32	7 x 7 = 49
8 x 3 = 24	9 x 7 = 63	8 x 3 = 24	9 x 5 = 45
9 x 4 = 36	7 x 10 = 70	7 x 7 = 49	7 x 1 = 7
7 x 10 = 70	8 x 4 = 32	8 x 8 = 64	9 x 9 = 81
7 x 3 = 21	9 x 3 = 27	9 x 8 = 72	8 x 10 = 80
8 x 4 = 32	7 x 4 = 28	8 x 9 = 72	7 x 2 = 14
7 x 6 = 42	8 x 8 = 64	7 x 7 = 49	8 x 3 = 24
9 x 10 = 90	7 x 9 = 63	8 x 2 = 16	7 x 11 = 77
9 x 6 = 54	9 x 6 = 54	9 x 3 = 27	8 x 2 = 16
7 x 6 = 42	1 x 9 = 9	8 x 6 = 48	1 x 8 = 8
9 x 1 = 9	7 x 6 = 42	7 x 5 = 35	7 x 10 = 70
7 x 8 = 56	9 x 10 = 90	1 x 9 = 9	7 x 8 = 56
8 x 7 = 56	1 x 8 = 8	7 x 1 = 7	8 x 3 = 24
8 x 9 = 72	8 x 7 = 56	7 x 5 = 35	7 x 5 = 35
7 x 7 = 49	7 x 9 = 63	8 x 3 = 24	8 x 7 = 56
8 x 2 = 16	8 x 8 = 64	9 x 7 = 63	7 x 7 = 49
1 x 9 = 9	7 x 5 = 35	8 x 8 = 64	★ 8 x 9 = 72