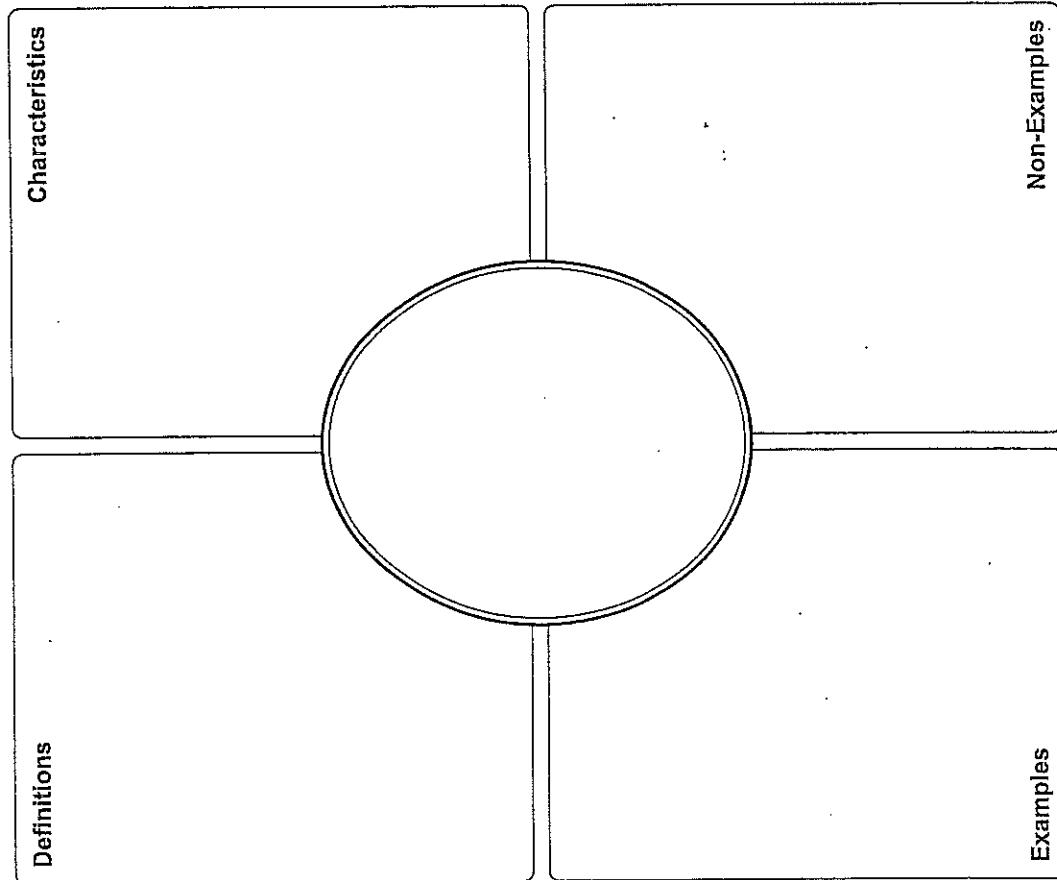


# Frayer Model Diagram

Name: \_\_\_\_\_

Date: \_\_\_\_\_

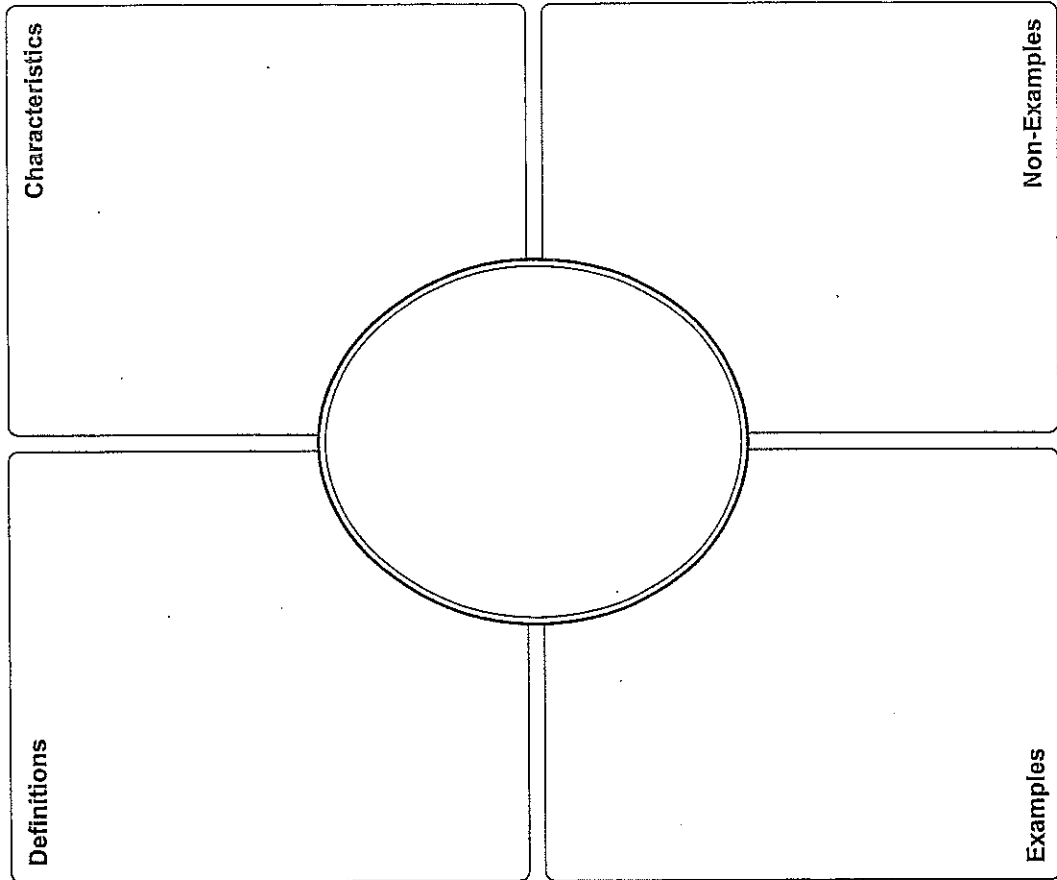


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# Frayer Model Diagram

Name: \_\_\_\_\_

Date: \_\_\_\_\_



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# Rules of Divisibility

A number is DIVISIBLE by another number if it can be divided evenly, without a remainder

Knowing divisibility rules can help find factors of a number.

## Divisibility Tests

A number is divisible by 2 if the last digit is 0, 2, 4, 6 or 8. (Even numbers)

A number is divisible by 3 if the sum of the digits is divisible by 3.

A number is divisible by 4 if the number formed by the last two digits is divisible by 4.

A number is divisible by 5 if the last digit is either 0 or 5.

A number is divisible by 6 if it is even AND it is divisible by 3.

A number is divisible by 9 if the sum of the digits is divisible by 9.

A number is divisible by 10 if the last digit is 0.

Name \_\_\_\_\_



**LESSON**  
**42**

# Divide Using Repeated Subtraction

**OBJECTIVE** Use repeated subtraction and multiples to find quotients.

You can use repeated subtraction to divide. Use repeated subtraction to solve the problem.

Nestor has 27 shells to make bracelets. He needs 4 shells for each bracelet. How many bracelets can he make?

Divide.  $27 \div 4$

Write  $4 \overline{)27}$ .

**Step 1**

Subtract the divisor until the remainder is less than the divisor. Record a 1 each time you subtract.

$4 \overline{)27}$	
$\underline{- 4}$	1
$23$	
$\underline{- 4}$	1
$19$	
$\underline{- 4}$	1
$15$	
$\underline{- 4}$	1
$11$	
$\underline{- 4}$	1
$7$	
$\underline{- 4}$	1
$3$	

**Step 2**

Count the number of times you subtracted the divisor, 4. 4 is subtracted six times with 3 left.

$$\begin{array}{r} 27 \div 4 \\ \hline 6 \text{ r } 3 \end{array}$$

So, Nestor can make 6 bracelets. He will have 3 shells left.

Use repeated subtraction to divide.

1.  $30 \div 4$

\_\_\_\_\_

2.  $24 \div 5$

\_\_\_\_\_

3.  $47 \div 7$

\_\_\_\_\_

**LESSON**  
**8**

**Model Factors**

**OBJECTIVE** Find all the factors of a number by using models.

**Use tiles to find all the factors of 25. Record the arrays and write the factors shown.**

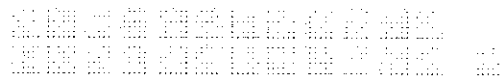
**Step 1** Record the array and list the factors.

$$1 \times 25 = 25$$

Factors: 1, 25

**Think:** Every whole number greater than 1 has at least two factors, that number and 1.

**Step 2** Make an array to see if 2 is a factor of 25.



**Think:** An array has the same number of tiles in every row and the same number of tiles in every column.

You cannot use all 25 tiles to make an array that has 2 rows. There is 1 tile left.

So, 2 is not a factor of 25.

**Step 3** Continue making arrays, counting by 1, to find all the other factors of 25.

Is 3 a factor?



3 rows, 1 tile left

No, 3 is not a factor of 25.

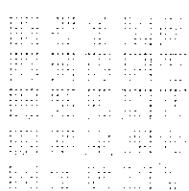
Is 4 a factor?



4 rows, 1 tile left

No, 4 is not a factor of 25.

Is 5 a factor?



5 rows, all tiles used.  $5 \times 5 = 25$

There are the same number of tiles in each row and column.

Yes, 5 is a factor of 25.

If you continue to make arrays up to 24, you will find there are no additional factors of 25.

So, the factors of 25 are 1, 5, and 25.

Two factors that make a product are sometimes called a factor pair.

What are the factor pairs for 25? 1 and 25, 5 and 5

**Use tiles to find all the factors of the product. Record the arrays and write the factors shown.**

1. 35 \_\_\_\_\_ 2. 36 \_\_\_\_\_


**LESSON**  
**11**
**Factors and Multiples**
**OBJECTIVE** Understand the relationship between factors and multiples, and determine whether a number is a multiple of a given number.

You know that  $1 \times 10 = \underline{10}$  and  $2 \times 5 = \underline{10}$ .

So, 1, 2, 5, and 10 are all **factors** of 10.

You can skip count to find **multiples** of a number:

Count by 1s: 1, 2, 3, 4, 5, 6, 7, 8, 9, **10**, ...

Count by 2s: 2, 4, 6, 8, **10**, 12, ...

Count by 5s: 5, **10**, 15, 20, 25, ...

Count by 10s: **10**, 20, 30, 40, ...

Note that **10** is a multiple of 1, 2, 5, and 10. A number is a multiple of all of its factors.

A **common multiple** is a multiple of two or more numbers. So, 10 is a common multiple of 1, 2, 5, and 10.

1. Multiply to list the next five multiples of 3.

3, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

2. Multiply to list the next five multiples of 7.

7, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Is the number a factor of 8? Write *yes* or *no*.

3. 2

\_\_\_\_\_

4. 8

\_\_\_\_\_

5. 15

\_\_\_\_\_

6. 20

\_\_\_\_\_

Is the number a multiple of 4? Write *yes* or *no*.

7. 2

\_\_\_\_\_

8. 12

\_\_\_\_\_

9. 16

\_\_\_\_\_

10. 18

\_\_\_\_\_



**LESSON**  
**9**

**Factors and Divisibility**

**OBJECTIVE** Determine whether a number is a factor of a given number.

A number is divisible by another number if the quotient is a counting number and the remainder is 0. You can decide if a number is divisible by 2, 3, 5, 6, or 9 by using divisibility rules instead of dividing. Divisibility rules help you decide if one number is a factor of another.

Is 39 divisible by 2, 3, 5, 6, or 9?

	Result	Conclusion	Divisibility Rules
$39 \div 2$	19 r1	39 is not divisible by <u>2</u> .	The last digit, 9, is not even, so 39 is not divisible by 2.
$39 \div 3$	13 r0	39 is divisible by <u>3</u> .	The sum of the digits, $3 + 9 = 12$ , is divisible by 3, so 39 is divisible by 3.
$39 \div 5$	7 r4	39 is not divisible by <u>5</u> .	The last digit, 9, is not a 0 or 5, so 39 is not divisible by 5.
$39 \div 6$	6 r3	39 is not divisible by <u>6</u> .	39 is not divisible by both 2 and 3, so it is not divisible by 6.
$39 \div 9$	4 r3	39 is not divisible by <u>9</u> .	The sum of the digits, $3 + 9 = 12$ , is not divisible by 9, so 39 is not divisible by 9.

39 is divisible by 3.  
So, 3 is a factor of 39.

Use the chart to tell whether 30 is divisible by each divisor. Explain.

	Result	Conclusion (yes/no)	Explanation
1. $30 \div 2$			
2. $30 \div 3$			
3. $30 \div 5$			
4. $30 \div 6$			
5. $30 \div 9$			

Is 4 a factor of the number? Write *yes* or *no*.

6. 81 \_\_\_\_\_

7. 24 \_\_\_\_\_

8. 56 \_\_\_\_\_



**LESSON**  
**12**

**Prime and Composite Numbers**

**OBJECTIVE** Determine whether a number is prime or composite.

A **prime number** is a whole number greater than 1 that has exactly two factors, 1 and the number itself.

A **composite number** is a whole number greater than 1 that has more than two factors.

You can use division to find the factors of a number and tell whether the number is prime or composite.

**Tell whether 55 is prime or composite.**

Use division to find all the numbers that divide into 55 without a remainder. Those numbers are the factors of 55.

$55 \div 1 = 55$ , so 1 and 55 are factors.

$55 \div 5 = 11$ , so 5 and 11 are factors.

The factors of 55 are 1, 5, 11, and 55.

Because 55 has more than two factors, 55 is a composite number.

**Tell whether 61 is prime or composite.**

Use division to find all the numbers that divide into 61 without a remainder. Those numbers are the factors of 61.

$61 \div 1 = 61$ , so 1 and 61 are factors.

There are no other numbers that divide into 61 evenly without a remainder.

The factors of 61 are 1 and 61.

Because 61 has exactly two factors, 61 is a prime number.

**Tell whether the number is *prime* or *composite*.**

**1. 44**

**Think:** Is 44 divisible by any number other than 1 and 44?

\_\_\_\_\_

**2. 53**

**Think:** Does 53 have other factors besides 1 and itself?

\_\_\_\_\_

**3. 12**

**4. 50**

**5. 24**

**6. 67**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**7. 83**

**8. 27**

**9. 34**

**10. 78**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**LESSON**  
**10**

**Problem Solving • Common Factors**

**OBJECTIVE** Solve problems by using the strategy *make a list*.

CC.4.OA.4

Susan sorts a collection of beads. There are 35 blue, 49 red, and 21 pink beads. She arranges all the beads into rows. Each row will have the same number of beads, and all the beads in a row will be the same color. How many beads can she put in each row?

Read the Problem	Solve the Problem															
<p><b>What do I need to find?</b></p> <p>I need to find <u>the number of beads in each row, if each row is equal and has only one color</u></p>	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Factors of 35</th> <th style="padding: 5px;">Factors of 49</th> <th style="padding: 5px;">Factors of 21</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">1</td> <td style="text-align: center; padding: 5px;">1</td> <td style="text-align: center; padding: 5px;">1</td> </tr> <tr> <td style="text-align: center; padding: 5px;">5</td> <td style="text-align: center; padding: 5px;">7</td> <td style="text-align: center; padding: 5px;">3</td> </tr> <tr> <td style="text-align: center; padding: 5px;">7</td> <td style="text-align: center; padding: 5px;">49</td> <td style="text-align: center; padding: 5px;">7</td> </tr> <tr> <td style="text-align: center; padding: 5px;">35</td> <td></td> <td style="text-align: center; padding: 5px;">21</td> </tr> </tbody> </table> <p style="margin-top: 20px;">The common factors are <u>1</u> and <u>7</u>.</p> <p style="margin-top: 20px;">So, Susan can put <u>1</u> or <u>7</u> beads in each row.</p>	Factors of 35	Factors of 49	Factors of 21	1	1	1	5	7	3	7	49	7	35		21
Factors of 35		Factors of 49	Factors of 21													
1		1	1													
5	7	3														
7	49	7														
35		21														
<p><b>What information do I need to use?</b></p> <p>Susan has <u>35 blue, 49 red, and 21 pink beads</u></p>																
<p><b>How will I use the information?</b></p> <p>I can make a list to find all of the factors of <u>35, 49, and 21</u></p> <p>Then I can use the list to find the <u>common factors</u></p>																

**1.** Allyson has 60 purple buttons, 36 black buttons, and 24 green buttons. She wants to put all of the buttons in bins. She wants each bin to have only one color and all bins to have the same number of buttons. How many buttons can Allyson put in one bin?

\_\_\_\_\_

**2.** Ricardo has a marble collection with 54 blue marbles, 24 red marbles, and 18 yellow marbles. He arranges the marbles into equal rows. The marbles in each row will be the same color. How many marbles can he put in one row?

\_\_\_\_\_



Name \_\_\_\_\_

**LESSON**  
**39**


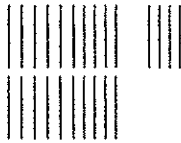
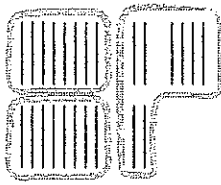
## Divide Tens, Hundreds, and Thousands

**OBJECTIVE** Divide tens, hundreds, and thousands by whole numbers through 10.



You can use base-ten blocks, place value, and basic facts to divide.

Divide.  $240 \div 3$

Use base-ten blocks.	Use place value.
<p><b>Step 1</b> Draw a quick picture to show 240.</p> 	<p><b>Step 1</b> Identify the basic fact to use.</p> <p>Use <math>24 \div 3</math>.</p>
<p><b>Step 2</b> You cannot divide 2 hundreds into 3 equal groups. Rename 2 hundreds as tens.</p>  <p><math>240 = \underline{24}</math> tens</p>	<p><b>Step 2</b> Use place value to rewrite 240 as tens:</p> <p><math>240 = \underline{24}</math> tens</p>
<p><b>Step 3</b> Separate the tens into 3 equal groups to divide.</p> <p>There are 3 groups of <u>8</u> tens.</p> <p>Write the answer.</p> <p><math>240 \div 3 = \underline{80}</math></p> 	<p><b>Step 3</b> Divide.</p> <p><math>24 \text{ tens} \div 3 = \underline{8}</math> tens</p> <p><math>= \underline{80}</math></p> <p>Write the answer.</p> <p><math>240 \div 3 = \underline{80}</math></p>

Use basic facts and place value to find the quotient.

1.  $280 \div 4$

What division fact can you use?

\_\_\_\_\_

$280 = \underline{\quad}$  tens

$28 \text{ tens} \div 4 = \underline{\quad}$  tens

$280 \div 4 = \underline{\quad}$

3.  $560 \div 7 = \underline{\quad}$

5.  $1,500 \div 5 = \underline{\quad}$

2.  $1,800 \div 9$

What division fact can you use?

\_\_\_\_\_

$1,800 = \underline{\quad}$  hundreds

$18 \text{ hundreds} \div 9 = \underline{\quad}$  hundreds

$1,800 \div 9 = \underline{\quad}$

4.  $180 \div 6 = \underline{\quad}$

6.  $3,200 \div 4 = \underline{\quad}$


**LESSON**  
**40**

## Estimate Quotients Using Compatible Numbers

**OBJECTIVE** Use compatible numbers to estimate quotients.

**Compatible numbers** are numbers that are easy to compute mentally. In division, one compatible number divides evenly into the other. Think of the multiples of a number to help you find compatible numbers.

Estimate.  $6 \overline{)216}$

**Step 1** Think of these multiples of 6:

6    12    18    24    30    36    42    48    54

Find multiples that are close to the first 2 digits of the dividend.  
18 tens and 24 tens are both close to 21 tens. You can use either or both numbers to estimate the quotient.

**Step 2** Estimate using compatible numbers.

$$\begin{array}{r} 216 \div 6 \\ \downarrow \\ 180 \div 6 = 30 \end{array} \qquad \begin{array}{r} 216 \div 6 \\ \downarrow \\ 240 \div 6 = 40 \end{array}$$

So,  $216 \div 6$  is between 30 and 40.

**Step 3** Decide whether the estimate is closer to 30 or 40.

$$216 - 180 = 36 \qquad 240 - 216 = 24$$

216 is closer to 240, so use 40 as the estimate.

Use compatible numbers to estimate the quotient.

1.  $3 \overline{)252}$

2.  $6 \overline{)546}$

3.  $4 \overline{)2,545}$

4.  $5 \overline{)314}$

5.  $2 \overline{)1,578}$

6.  $8 \overline{)289}$



**LESSON**  
**43**

# Divide Using Partial Quotients

**OBJECTIVE** Use partial quotients to divide.

You can use partial quotients to divide.

Divide.  $492 \div 4$

**Step 1** Subtract greater multiples of the divisor. Repeat if needed.

**Step 2** Subtract lesser multiples of the divisor. Repeat until the remaining number is less than the divisor.

**Step 3** Add the partial quotients.

$$\begin{array}{r} 4 \overline{)492} \\ - 400 \\ \hline 92 \\ - 80 \\ \hline 12 \\ - 12 \\ \hline 0 \end{array}$$

Partial  
quotients

$$\begin{array}{r} 100 \times 4 \quad 100 \\ 20 \times 4 \quad 20 \\ 3 \times 4 \quad + 3 \\ \hline 123 \end{array}$$

Use rectangular models to record partial quotients.

	100			492
4	400	80	12	- 400
				92
	100	20		
4	400	80	12	- 80
				12
	100	20	3	
4	400	80	12	- 12
				0

$$\underline{100} + \underline{20} + \underline{3} = \underline{123}$$

Divide. Use partial quotients.

1.  $3 \overline{)657}$

\_\_\_\_\_  $100 \times$  \_\_\_\_\_  $100$

\_\_\_\_\_  $100 \times$  \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ \_\_\_\_\_  $\times$  \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ \_\_\_\_\_  $\times$  \_\_\_\_\_  $+$  \_\_\_\_\_

Divide. Use rectangular models to record the partial quotients.

2.  $852 \div 6 =$  \_\_\_\_\_

**LESSON**  
**45**

**Place the First Digit**

**OBJECTIVE** Use place value to determine where to place the first digit of a quotient.

**Divide.**  $763 \div 3 = \square$

**Step 1** Estimate. Then divide the hundreds.

**Think:**  $3 \times 1$  hundred = 3 hundreds

$3 \times 2$  hundreds = 6 hundreds

$3 \times 3$  hundreds = 9 hundreds

$3 \times 3$  hundreds is too large.

Use 2 hundreds as an estimate.

$$\begin{array}{r} 2 \leftarrow \text{Divide 7 hundreds by 3.} \\ 3 \overline{)763} \\ \underline{-6} \leftarrow \text{Multiply. } 3 \times 2 \text{ hundreds} \\ 1 \leftarrow \text{Subtract.} \end{array}$$

**Step 2** Bring down the tens digit. Then divide the tens.

$$\begin{array}{r} 2 \\ 3 \overline{)763} \\ \underline{-6} \downarrow \\ 16 \leftarrow \text{Bring down the 6.} \end{array}$$

$$\begin{array}{r} 25 \leftarrow \text{Divide 16 tens by 3.} \\ 3 \overline{)763} \\ \underline{-6} \\ 16 \\ \underline{-15} \leftarrow \text{Multiply. } 3 \times 5 \text{ tens} \\ 1 \leftarrow \text{Subtract.} \end{array}$$

**Step 3** Bring down the ones digit. Then divide the ones.

$$\begin{array}{r} 25 \\ 3 \overline{)763} \\ \underline{-6} \downarrow \\ 16 \downarrow \\ \underline{-15} \\ 13 \leftarrow \text{Bring down the 3.} \end{array}$$

$$\begin{array}{r} 254 \leftarrow \text{Divide 13 ones by 3.} \\ 3 \overline{)763} \\ \underline{-6} \\ 16 \\ \underline{-15} \\ 13 \\ \underline{-12} \leftarrow \text{Multiply. } 3 \times 4 \text{ ones} \\ 1 \leftarrow \text{Subtract.} \end{array}$$

**Step 4** Check to make sure that the remainder is less than the divisor. Write the answer.

$$\begin{array}{r} 254 \text{ r}1 \quad 1 < 3 \\ 3 \overline{)763} \end{array}$$

**Divide.**

1.  $2 \overline{)531}$

2.  $4 \overline{)628}$

3.  $9 \overline{)349}$

4.  $7 \overline{)794}$



**LESSON**  
**46**

**Divide by 1-Digit Numbers**

**OBJECTIVE** Divide multidigit numbers by 1-digit divisors.

Divide.  $766 \div 6 = \square$

**Step 1** Use place value to place the first digit.

$$\begin{array}{r} 1 \\ 6 \overline{)766} \end{array}$$

Think: 7 hundreds can be shared among 6 groups without regrouping.

**Step 2** Bring down the tens digit. Then divide the tens.

$$\begin{array}{r} 1 \\ 6 \overline{)766} \\ -6 \downarrow \\ \hline 16 \end{array}$$

← Bring down the 6.

$$\begin{array}{r} 12 \\ 6 \overline{)766} \\ -6 \\ \hline 16 \\ -12 \\ \hline 4 \end{array}$$

← Divide 16 tens by 6.

← Multiply.  $6 \times 2$  tens

← Subtract.

**Step 3** Bring down the ones digit. Then divide the ones.

$$\begin{array}{r} 12 \\ 6 \overline{)766} \\ -6 \downarrow \\ \hline 16 \\ -12 \downarrow \\ \hline 46 \end{array}$$

← Bring down the 6.

$$\begin{array}{r} 127 \\ 6 \overline{)766} \\ -6 \\ \hline 16 \\ -12 \\ \hline 46 \\ -42 \\ \hline 4 \end{array}$$

← Divide 46 ones by 6.

← Multiply.  $6 \times 7$  ones

← Subtract.

**Step 4** Check to make sure that the remainder is less than the divisor. Write the answer.

$$\begin{array}{r} 127 \text{ r}4 \\ 6 \overline{)766} \end{array} \quad 4 < 6$$

**Step 5** Use multiplication and addition to check your answer.

$$\begin{array}{r} 127 \\ \times 6 \\ \hline 762 \\ + 4 \\ \hline 766 \end{array}$$

**Divide and check.**

1.  $4 \overline{)868}$

2.  $2 \overline{)657}$

3.  $7 \overline{)8,473}$



**LESSON**  
**6**

**Interpret the Remainder**

OBJECTIVE Use remainders to solve division problems.

When you solve a division problem with a remainder, the way you interpret the remainder depends on the situation and the question.

<p><b>Way 1: Write the remainder as a fraction.</b> Callie has a board that is 60 inches long. She wants to cut 8 shelves of equal length from the board and use the entire board. How long will each shelf be?</p> <p>Divide. <math>60 \div 8</math>      <math>\underline{7 \text{ r}4}</math></p> <p>The remainder, 4 inches, can be divided into 8 equal parts.</p> <p style="text-align: center;"> <math>\frac{4}{8}</math> ← remainder  <math>\frac{4}{8}</math> ← divisor         </p> <p>Write the remainder as a fraction.</p> <p>Each shelf will be <math>\underline{\frac{74}{8}}</math> inches long.</p>	<p><b>Way 2: Drop the remainder.</b> Callie has 60 beads. She wants to make 8 identical bracelets and use as many beads as possible on each bracelet. How many beads will be on each bracelet?</p> <p>Divide. <math>60 \div 8</math>      <math>\underline{7 \text{ r}4}</math></p> <p>The remainder is the number of beads left over. Those beads will not be used. Drop the remainder.</p> <p>Callie will use <math>\underline{7}</math> beads on each bracelet.</p>
<p><b>Way 3: Add 1 to the quotient.</b> Callie has 60 beads. She wants to put 8 beads in each container. How many containers will she need?</p> <p>Divide. <math>60 \div 8</math>      <math>\underline{7 \text{ r}4}</math></p> <p>The answer shows that Callie can fill 7 containers but will have 4 beads left over. She will need 1 more container for the 4 leftover beads. Add 1 to the quotient.</p> <p>Callie will need <math>\underline{8}</math> containers.</p>	<p><b>Way 4: Use only the remainder.</b> Callie has 60 stickers. She wants to give an equal number of stickers to 8 friends. She will give the leftover stickers to her sister. How many stickers will Callie give to her sister?</p> <p>Divide. <math>60 \div 8</math>      <math>\underline{7 \text{ r}4}</math></p> <p>The remainder is the number of stickers left over. Use the remainder as the answer.</p> <p>Callie will give her sister <math>\underline{4}</math> stickers.</p>

1. There are 35 students going to the zoo. Each van can hold 6 students. How many vans are needed?

\_\_\_\_\_

2. Sue has 55 inches of ribbon. She wants to cut the ribbon into 6 equal pieces. How long will each piece be?

\_\_\_\_\_

**Homework**

Divide with remainders.

1.  $5 \overline{)29}$

2.  $8 \overline{)34}$

3.  $9 \overline{)75}$

4.  $2 \overline{)13}$

5.  $4 \overline{)39}$

6.  $4 \overline{)30}$

7.  $7 \overline{)45}$

8.  $6 \overline{)38}$

9.  $5 \overline{)39}$

10.  $3 \overline{)25}$

11.  $4 \overline{)31}$

12.  $9 \overline{)35}$

13.  $4 \overline{)27}$

14.  $8 \overline{)29}$

15.  $7 \overline{)22}$

16.  $3 \overline{)26}$

17.  $6 \overline{)37}$

18.  $8 \overline{)42}$

## Remembering

Write the number of thousands and the number of hundreds in each number.

1. 4,128

\_\_\_\_\_ thousands

\_\_\_\_\_ hundreds

2. 8,395

\_\_\_\_\_ thousands

\_\_\_\_\_ hundreds

3. 612

\_\_\_\_\_ thousands

\_\_\_\_\_ hundreds

Read and write each number in expanded form.

4. 94 \_\_\_\_\_

5. 752 \_\_\_\_\_

6. 3,576 \_\_\_\_\_

7. 8,109 \_\_\_\_\_

Read and write each number in standard form.

8.  $200 + 30 + 7$  \_\_\_\_\_

9.  $5,000 + 800 + 60$  \_\_\_\_\_

10. four hundred sixty-three

\_\_\_\_\_

11. eight thousand, one hundred ten

\_\_\_\_\_

Find the area (in square units) of a rectangle with the given dimensions.

12.  $5 \times 7$  \_\_\_\_\_

13.  $20 \times 3$  \_\_\_\_\_

14.  $3 \times 8$  \_\_\_\_\_

15.  $4 \times 90$  \_\_\_\_\_

16.  $4 \times 4$  \_\_\_\_\_

17.  $30 \times 6$  \_\_\_\_\_

18. **Stretch Your Thinking** Three vocabulary terms for division are shown in the division model. Use these terms to complete the multiplication sentence.

$$\begin{array}{r} \text{quotient} \\ \text{divisor} \overline{) \text{dividend}} \end{array}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



**Division with Remainders**

a.

$$3 \overline{)23}$$

b.

$$7 \overline{)46}$$

c.

$$4 \overline{)7}$$

d.

$$8 \overline{)20}$$

e.

$$5 \overline{)21}$$

f.

$$4 \overline{)23}$$

g.

$$3 \overline{)17}$$

h.

$$9 \overline{)48}$$

i.

$$6 \overline{)34}$$

j.

$$6 \overline{)9}$$

k.

$$5 \overline{)36}$$

l.

$$8 \overline{)18}$$

m.

$$3 \overline{)4}$$

n.

$$7 \overline{)15}$$

o.

$$6 \overline{)34}$$

p.

$$6 \overline{)57}$$

q. You have 23 cookies and 9 plates.  
You put the same number of  
cookies on each plate.

How many cookies  
are on each plate? \_\_\_\_\_

How many cookies  
are left over? \_\_\_\_\_

r. There are 46 flowers and 9  
vases. Each vase must have  
the same number of flowers.

How many flowers  
will be in each vase? \_\_\_\_\_

How many flowers  
will be left over? \_\_\_\_\_

## Remembering

Round each number to the nearest hundred.

1. 591 \_\_\_\_\_

2. 827 \_\_\_\_\_

3. 457 \_\_\_\_\_

Round each number to the nearest thousand.

4. 7,129 \_\_\_\_\_

5. 6,742 \_\_\_\_\_

6. 1,028 \_\_\_\_\_

Draw a rectangle. Find the tens product, the ones product, and the total product.

7.  $4 \times 29$

8.  $8 \times 36$

Divide with remainders.

9.  $7 \overline{)38}$

10.  $4 \overline{)29}$

11.  $3 \overline{)14}$

**12. Stretch Your Thinking** Divide 594 by 3 using the Place Value Sections Method and Expanded Notation Method. Explain how you can check your answer using multiplication.

$$\begin{array}{r} \underline{\quad}00 \quad + \quad \underline{\quad}0 \quad + \quad \underline{\quad} \quad = \quad \underline{\quad} \\ 3 \overline{)594} \end{array}$$

594		
-----	--	--

$$3 \overline{)594}$$

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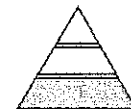


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Name \_\_\_\_\_



CC.4.OA.4

## Model Factors

Use tiles to find all the factors of the product. Record the arrays on grid paper and write the factors shown.

1. 15

$$\underline{1 \times 15 = 15}$$

$$\underline{3 \times 5 = 15}$$

1, 3, 5, 15

2. 30

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. 45

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. 19

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. 40

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. 36

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. 22

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. 4

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. 26

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

10. 49

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. 32

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. 23

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Problem Solving

13. Brooke has to set up 70 chairs in equal rows for the class talent show. But, there is not room for more than 20 rows. What are the possible number of rows that Brooke could set up?

\_\_\_\_\_

14. Eduardo thinks of a number between 1 and 20 that has exactly 5 factors. What number is he thinking of?

\_\_\_\_\_

Name \_\_\_\_\_



## Problem Solving • Common Factors

Solve each problem.

1. Grace is preparing grab bags for her store's open house. She has 24 candles, 16 pens, and 40 figurines. Each grab bag will have the same number of items, and all the items in a bag will be the same. How many items can Grace put in each bag?

Find the  
common factors  
of 24, 16, and 40.

1, 2, 4, or 8 items

2. Simon is making wreaths to sell. He has 60 bows, 36 silk roses, and 48 silk carnations. He wants to put the same number of items on each wreath. All the items on a wreath will be the same type. How many items can Simon put on each wreath?

3. Justin has 20 pencils, 25 erasers, and 40 paper clips. He organizes them into groups with the same number of items in each group. All the items in a group will be the same type. How many items can he put in each group?

4. A food bank has 50 cans of vegetables, 30 loaves of bread, and 100 bottles of water. The volunteers will put the items into boxes. Each box will have the same number of food items and all the items in the box will be the same type. How many items can they put in each box?

5. A debate competition has participants from three different schools: 15 from James Elementary, 18 from George Washington School, and 12 from the MLK Jr. Academy. All teams must have the same number of students. Each team can have only students from the same school. How many students can be on each team?

Name \_\_\_\_\_



CC.4.OA.4

## Factors and Divisibility

Is 6 a factor of the number? Write *yes* or *no*.

1. 36

2. 56

3. 42

4. 66

Think:  $6 \times 6 = 36$

yes                      \_\_\_\_\_

Is 5 a factor of the number? Write *yes* or *no*.

5. 38

6. 45

7. 60

8. 39

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

List all the factor pairs in the table.

9.

Factors of 12	
____ × ____ = ____	____, ____
____ × ____ = ____	____, ____
____ × ____ = ____	____, ____

10.

Factors of 25	
____ × ____ = ____	____, ____
____ × ____ = ____	____, ____

11. List all the factor pairs for 48. Make a table to help.

\_\_\_\_\_

\_\_\_\_\_

## Problem Solving

12. Bryson buys a bag of 64 plastic miniature dinosaurs. Could he distribute them equally into six storage containers and not have any left over? **Explain.**

\_\_\_\_\_

13. Lori wants to distribute 35 peaches equally into baskets. She will use more than 1 but fewer than 10 baskets. How many baskets does Lori need?

\_\_\_\_\_

## Remembering

Draw a rectangle model. Solve using any method that relates to the model.

1.  $8 \times 1,593$  \_\_\_\_\_

2.  $3 \times 6,247$  \_\_\_\_\_

Use the correct operation or combination of operations to solve the problem.

3. Melina has 4 sheets of wacky face stickers with 24 stickers on each sheet. Melina cuts each sticker individually from the sheet. She then divides them evenly into 3 piles to give to friends. How many stickers are in each pile?

\_\_\_\_\_

Solve.

4.  $5 \times 4 + 7 = g$  \_\_\_\_\_

5.  $(3 \times 7) + (2 \times 10) = h$  \_\_\_\_\_

6.  $16 - (5 \times 3) = m$  \_\_\_\_\_

7.  $(9 - 3) \times (2 + 7) = l$  \_\_\_\_\_

8.  $(12 - 8) + (3 \times 3) = p$  \_\_\_\_\_

9.  $(24 \div 4) + 19 = t$  \_\_\_\_\_

10. **Stretch Your Thinking** Use *prime* or *composite* to complete the sentence. Then explain your choice.  
All even numbers greater than 2 are \_\_\_\_\_.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_



## Prime and Composite Numbers

Tell whether the number is *prime* or *composite*.

1. 47

Think: Does 47 have other factors besides 1 and itself?

\_\_\_\_\_ prime \_\_\_\_\_

2. 68

3. 52

4. 63

5. 75

6. 31

7. 77

8. 59

9. 87

10. 72

11. 49

12. 73

### Problem Solving

13. Kai wrote the number 85 on the board. Is 85 prime or composite? Explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

14. Lisa says that 43 is a 2-digit odd number that is composite. Is she correct? Explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Homework**

List all the factor pairs for each number.

1. 49

\_\_\_\_\_

2. 71

\_\_\_\_\_

3. 18

\_\_\_\_\_

4. 57

\_\_\_\_\_

Write whether each number is *prime* or *composite*.

5. 50

\_\_\_\_\_

6. 29

\_\_\_\_\_

7. 81

\_\_\_\_\_

8. 95

\_\_\_\_\_

9. 19

\_\_\_\_\_

10. 54

\_\_\_\_\_

Tell whether 6 is a factor of each number. Write *yes* or *no*.

11. 6

\_\_\_\_\_

12. 80

\_\_\_\_\_

13. 36

\_\_\_\_\_

14. 72

\_\_\_\_\_

Tell whether each number is a multiple of 8. Write *yes* or *no*.

15. 64

\_\_\_\_\_

16. 32

\_\_\_\_\_

17. 88

\_\_\_\_\_

18. 18

\_\_\_\_\_

Use the rule to complete the pattern.

19. Rule: skip count by 11

11, 22, \_\_\_\_\_, \_\_\_\_\_, 55, \_\_\_\_\_, \_\_\_\_\_, 88, 99

20. Rule: skip count by 9

9, \_\_\_\_\_, 27, \_\_\_\_\_, 45, \_\_\_\_\_, 63, \_\_\_\_\_, 81, \_\_\_\_\_

21. Rule: skip count by 8

8, 16, 24, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, 64, 72, \_\_\_\_\_



Name \_\_\_\_\_



CC.4.OA.4

## Factors and Multiples

Is the number a multiple of 8? Write *yes* or *no*.

1. 4

2. 8

3. 20

4. 40

**Think:** Since  $4 \times 2 = 8$ ,  
4 is a *factor* of 8, not a  
multiple of 8.

no                      \_\_\_\_\_

List the next nine multiples of each number. Find the common multiples.

5. Multiples of 4: 4, \_\_\_\_\_

Multiples of 7: 7, \_\_\_\_\_

Common multiples: \_\_\_\_\_

6. Multiples of 3: 3, \_\_\_\_\_

Multiples of 9: 9, \_\_\_\_\_

Common multiples: \_\_\_\_\_

7. Multiples of 6: 6, \_\_\_\_\_

Multiples of 8: 8, \_\_\_\_\_

Common multiples: \_\_\_\_\_

Tell whether 24 is a factor or multiple of the number.

Write *factor*, *multiple*, or *neither*.

8. 6 \_\_\_\_\_      9. 36 \_\_\_\_\_      10. 48 \_\_\_\_\_

## Problem Solving

11. Ken paid \$12 for two magazines. The cost of each magazine was a multiple of \$3. What are the possible prices of the magazines?

\_\_\_\_\_

12. Jodie bought some shirts for \$6 each. Marge bought some shirts for \$8 each. The girls spent the same amount of money on shirts. What is the least amount they could have spent?

\_\_\_\_\_

Name \_\_\_\_\_



## Remainders

Use counters to find the quotient and remainder.

1.  $13 \div 4$

2.  $24 \div 7$

3.  $39 \div 5$

4.  $36 \div 8$

\_\_\_\_\_ 3 r1 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5.  $6 \overline{)27}$

6.  $25 \div 9$

7.  $3 \overline{)17}$

8.  $26 \div 4$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Divide. Draw a quick picture to help.

9.  $14 \div 3$

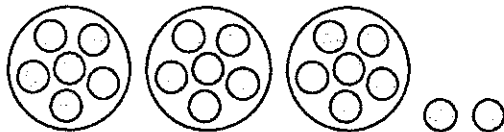
10.  $5 \overline{)29}$

\_\_\_\_\_

\_\_\_\_\_

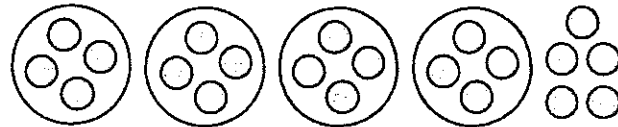
## Problem Solving

11. What is the quotient and remainder in the division problem modeled below?



\_\_\_\_\_

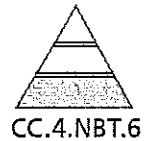
12. Mark drew the following model and said it represented the problem  $21 \div 4$ . Is Mark's model correct? If so, what is the quotient and remainder? If not, what is the correct quotient and remainder?



\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_



## Divide Tens, Hundreds, and Thousands

Use basic facts and place value to find the quotient.

1.  $3,600 \div 4 = \underline{900}$       Think: 3,600 is 36 hundreds.  
Use the basic fact  $36 \div 4 = 9$ .  
So, 36 hundreds  $\div 4 = 9$  hundreds, or 900.

2.  $240 \div 6 = \underline{\hspace{2cm}}$       3.  $5,400 \div 9 = \underline{\hspace{2cm}}$       4.  $300 \div 5 = \underline{\hspace{2cm}}$

5.  $4,800 \div 6 = \underline{\hspace{2cm}}$       6.  $420 \div 7 = \underline{\hspace{2cm}}$       7.  $150 \div 3 = \underline{\hspace{2cm}}$

8.  $6,300 \div 7 = \underline{\hspace{2cm}}$       9.  $1,200 \div 4 = \underline{\hspace{2cm}}$       10.  $360 \div 6 = \underline{\hspace{2cm}}$

Find the quotient.

11.  $28 \div 4 = \underline{\hspace{2cm}}$       12.  $18 \div 3 = \underline{\hspace{2cm}}$       13.  $45 \div 9 = \underline{\hspace{2cm}}$   
 $280 \div 4 = \underline{\hspace{2cm}}$        $180 \div 3 = \underline{\hspace{2cm}}$        $450 \div 9 = \underline{\hspace{2cm}}$   
 $2,800 \div 4 = \underline{\hspace{2cm}}$        $1,800 \div 3 = \underline{\hspace{2cm}}$        $4,500 \div 9 = \underline{\hspace{2cm}}$

## Problem Solving

14. At an assembly, 180 students sit in 9 equal rows. How many students sit in each row?  
\_\_\_\_\_
15. Hilary can read 560 words in 7 minutes. How many words can Hilary read in 1 minute?  
\_\_\_\_\_
16. A company produces 7,200 gallons of bottled water each day. The company puts 8 one-gallon bottles in each carton. How many cartons are needed to hold all the one-gallon bottles produced in one day?  
\_\_\_\_\_
17. An airplane flew 2,400 miles in 4 hours. If the plane flew the same number of miles each hour, how many miles did it fly in 1 hour?  
\_\_\_\_\_

Name \_\_\_\_\_



## Estimate Quotients Using Compatible Numbers

Use compatible numbers to estimate the quotient.

1.  $389 \div 4$

2.  $358 \div 3$

3.  $784 \div 8$

4.  $179 \div 9$

$400 \div 4 = 100$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5.  $315 \div 8$

6.  $2,116 \div 7$

7.  $4,156 \div 7$

8.  $474 \div 9$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Use compatible numbers to find two estimates that the quotient is between.

9.  $1,624 \div 3$

10.  $2,593 \div 6$

11.  $1,045 \div 2$

12.  $1,754 \div 9$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13.  $2,363 \div 8$

14.  $1,649 \div 5$

15.  $5,535 \div 7$

16.  $3,640 \div 6$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Problem Solving

17. A CD store sold 3,467 CDs in 7 days. About the same number of CDs were sold each day. About how many CDs did the store sell each day?

\_\_\_\_\_

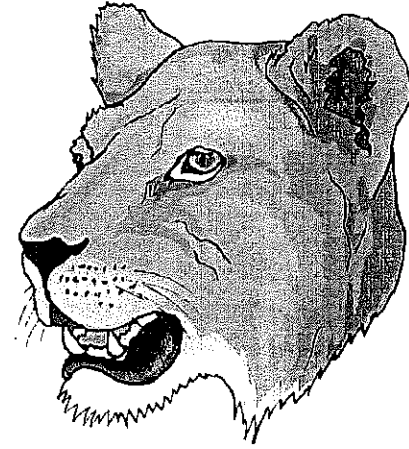
18. Marcus has 731 books. He puts about the same number of books on each of 9 shelves in his a bookcase. About how many books are on each shelf?

\_\_\_\_\_

Name: \_\_\_\_\_

# Division

Two-Digit and Three-Digit Dividends, No Remainders



a.  $2 \overline{) 28}$

b.  $3 \overline{) 45}$

c.  $4 \overline{) 40}$

d.  $2 \overline{) 32}$

e.  $4 \overline{) 84}$

f.  $5 \overline{) 100}$

g.  $7 \overline{) 154}$

h.  $9 \overline{) 288}$

i.  $6 \overline{) 330}$

j.  $8 \overline{) 648}$

- k. **A lion eats 462 pounds of food in a week.**  
**If the lion eats the same amount of food each day,**  
**how many pounds does a lion eat per day?**  
Show your work and label your answer.

ans: \_\_\_\_\_

## Remembering

Read and write each number in word form.

1. 73,894 \_\_\_\_\_

2. 220,508 \_\_\_\_\_

3. 1,000,000 \_\_\_\_\_

4. 915,007 \_\_\_\_\_

Estimate each product. Solve to check your estimate.

5.  $6 \times 42$

6.  $3 \times 19$

7.  $5 \times 78$

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Solve. Use the Place Value Sections Method and the Expanded Notation Method for division.

8. A ball pit at an entertainment center contains 2,120 balls. The balls are cleaned regularly by a machine which can hold a certain number of balls at once. If the machine must be run 8 times to clean all the balls, how many balls fit in the machine at one time?

\_\_\_\_\_

$$8 \overline{)2,120}$$

$$8 \begin{array}{|c|c|c|} \hline \text{ } & \text{ } & \text{ } \\ \hline \end{array} \begin{array}{l} \text{ } 00 \\ + \text{ } 0 \\ + \text{ } \\ \hline \end{array} = \text{ } \begin{array}{|c|} \hline \text{ } \\ \hline \end{array}$$

9. **Stretch Your Thinking** How many digits will be in the quotient of 588 divided by 6? Use place value to explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name: \_\_\_\_\_

Division: 2-Digit Dividends; 2-Digit Quotients

# Graph Paper Division

a.

3 3 9

b.

2 8 7

c.

5 9 2

d.

8 8 5

e.

3 6 8

f.

7 7 1

g.

6 7 4

h.

9 9 9

i.

4 7 9

## Remembering

Compare using  $>$ ,  $<$ , or  $=$ .

1. 258,800 ○ 258,700

2. 142,367 ○ 342,367

Use the Algebraic Notation Method to solve the problem.  
Complete the steps.

3.  $7 \cdot 28$  \_\_\_\_\_

Solve. Use the Place Value Sections and the Expanded Notation Methods for division.

4. \_\_\_\_\_ 00 + \_\_\_\_\_ 0 + \_\_\_\_\_ = \_\_\_\_\_

$4 \overline{)1,036}$

4	1,036		
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5. **Stretch Your Thinking** Jenna divides 2,506 by 4.  
Explain the error in Jenna's solution. Then show the correct solution.

$$\begin{array}{r}
 604 \\
 4 \overline{)2,506} \\
 \underline{-24} \phantom{0} \\
 1 \phantom{0} \\
 \underline{-0} \phantom{0} \\
 16 \\
 \underline{-16} \\
 0
 \end{array}$$

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**Homework**

When the Kent Elementary School fourth-grade classes were studying butterflies, they took a field trip to a butterfly garden.

**Use the correct operation or combination of operations to solve each problem.**

*Show your work.*

1. Nine buses of students, teachers, and parents went on the field trip. If 5 of the buses held 63 people each and the other buses held 54 people each, how many people went in all?

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2. Some female butterflies lay their eggs in clusters. If one kind of butterfly lays 12 eggs at a time and another kind lays 18 eggs at a time, how many eggs would 8 of each kind of butterfly lay?

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3. Teachers divided students into groups of 3. Each group of 3 wrote a report that had 9 pictures in it. The students used 585 pictures altogether. How many students were there in all?

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4. Driving to and from the butterfly garden took 45 minutes each way. The students spent 3 hours in the garden and 30 minutes eating lunch. If the groups left the school at 9:00 A.M., what time did they get back?

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## Remembering

Add or subtract.

$$\begin{array}{r} 1. \quad 5,833 \\ - 2,159 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 49,802 \\ + 15,658 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 98,139 \\ - 27,345 \\ \hline \end{array}$$

Sketch rectangles and solve by any method that relates to your sketch.

$$4. \quad 5 \times 6,294 \quad \underline{\hspace{2cm}}$$

$$5. \quad 8 \times 1,375 \quad \underline{\hspace{2cm}}$$

Solve. Then explain the meaning of the remainder.

6. Vince has 138 artist trading cards. He is arranging them in an album that can hold 4 to a page. If Vince fills each page as he goes, how many cards are on the last page?

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7. Amber is doing an online math drill program. She has exactly 300 seconds to complete as many problems as she can. If it takes Amber 7 seconds to do each problem, how many problems does she complete?

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8. **Stretch Your Thinking** In the fall, Wesley swam a race in 58 seconds, and Aiden swam it in 54 seconds. In the spring, they swam the same race. Wesley did it in 53 seconds, and Aiden did it in 52 seconds. How much more of an improvement was one boy's race time over the other boy's race time? Explain.

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**Homework**

Solve. Write the remainder as a whole number.

1.  $7 \overline{)7,012}$

2.  $9 \overline{)8,410}$

3.  $2 \overline{)7,825}$

4.  $5 \overline{)3,512}$

5.  $6 \overline{)6,618}$

6.  $8 \overline{)7,225}$

Solve. Then explain the meaning of the remainder.

7. Principal Clements wants to buy a pencil for each of the 57 fourth-graders in her school. The pencils come in packages of 6. How many packages does Principal Clements need to buy?

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8. Tyler has 71 CDs in his collection. He places the CDs in a book that holds 4 CDs on each page. If Tyler fills each page, how many CDs will be on the last page?

---



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---



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9. Amanda and her family are hiking a trail that is 46 miles long. They plan to hike exactly 7 miles each day. How many days will they hike exactly 7 miles?

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10. Cesar makes 123 ounces of trail mix. He puts an equal number of ounces in each of 9 bags. How many ounces of trail mix does Cesar have left over?

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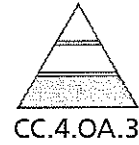
Name:

assignment: ~~3-9~~ 3-9

# Good Luck with Your Division!

①	77012	918410	27825	53512	66618
②					
③					
④					
⑤					
⑥					
⑦					
⑧					
⑨	87225				
⑩					

Name \_\_\_\_\_



## Interpret the Remainder

Interpret the remainder to solve.

1. Hakeem has 100 tomato plants. He wants to plant them in rows of 8. How many full rows will he have?

Think:  $100 \div 8$  is 12 with a remainder of 4. The question asks "how many full rows," so use only the quotient.

12 full rows

2. A teacher has 27 students in her class. She asks the students to form as many groups of 4 as possible. How many students will not be in a group?

3. A sporting goods company can ship 6 footballs in each carton. How many cartons are needed to ship 75 footballs?

4. A carpenter has a board that is 10 feet long. He wants to make 6 table legs that are all the same length. What is the longest each leg can be?

5. Allie wants to arrange her flower garden in 8 equal rows. She buys 60 plants. What is the greatest number of plants she can put in each row?

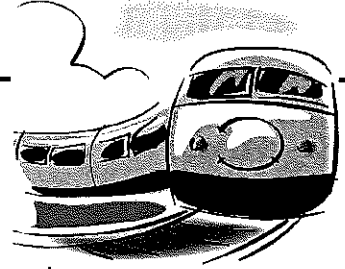
## Problem Solving

6. Joanna has 70 beads. She uses 8 beads for each bracelet. She makes as many bracelets as possible. How many beads will Joanna have left over?

7. A teacher wants to give 3 markers to each of her 25 students. Markers come in packages of 8. How many packages of markers will the teacher need?

Name: \_\_\_\_\_

## Long Division Word Problems



Solve each word problem.

1. The Starline Express is a train that can transport 567 people from Greenville to Snowtown. There are 9 passenger cars on the train. Each car can carry the same number of passengers. How many people can each passenger car hold?

Answer: \_\_\_\_\_

2. There are 788 students at Maple Elementary School. They are each given one colored t-shirt to wear on field day. The t-shirts are red, green, yellow, and blue. There is an equal number of each colored shirt. How many students received a red shirt?

Answer: \_\_\_\_\_

3. Ollivander's Stuffed Bear Shop has 456 bears in stock. Exactly half of them are made from wool. How many wool bears does Mr. Ollivander have in stock?

Answer: \_\_\_\_\_

4. New Era Baseball Cap factory made 315 caps last week. The factory operated from Monday through Friday, and they were closed for the weekend. On average, how many caps did they make per day?

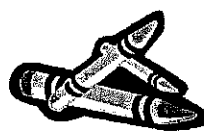
Answer: \_\_\_\_\_

Show your work  
in this column.

- 1 Tom had 114 baseball cards. He kept 10 and shared the rest evenly among his 8 friends. How many baseball cards did each friend get?



- 2 A teacher bought 12 packets of crayons. Seven of the packets had 9 crayons and the other five packets had 10 crayons. How many crayons did the teacher buy in all?



- 3 Mr. Smith baked 3 trays of 36 cookies. After they cooled he divided the cookies evenly into 4 bags. How many cookies did Mr. Smith place in each bag?



- 4 On a Friday evening a pizza shop had orders for 4 pepperoni, 97 vegetable, and 335 cheese pizzas. If the 4 cooks each made an equal number of pizzas, how many pizzas did each cook make?



5

Six adults and five classes of 32 students went to the museum by bus. If each bus held 25 passengers how many buses were needed?



6

Mr. Liz divided \$300 equally among his 5 children. His daughter, Lisa, used the money to buy 12 gifts that each cost the same amount. What was the price of each gift?



7

I had 357 books and got 23 more for my birthday. I put them into piles, with 38 books in each pile. How many piles of books did I make?



8

I earn \$5 per hour babysitting and \$4 per hour for weeding the garden. Last week I did 7 hours babysitting and 6 hours weeding. How much more money do I need to buy a game that costs \$80.00?





Name \_\_\_\_\_



## Divide by 1-Digit Numbers

Divide and check.

$$\begin{array}{r} 318 \\ 2 \overline{)636} \\ \underline{-6} \phantom{0} \\ 03 \phantom{0} \\ \underline{-2} \phantom{0} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$

$$\begin{array}{r} 318 \\ \times 2 \\ \hline 636 \end{array}$$

$$2. 4 \overline{)631}$$

$$3. 8 \overline{)906}$$

$$4. 6 \overline{)6,739}$$

$$5. 4 \overline{)2,328}$$

$$6. 5 \overline{)7,549}$$

## Problem Solving

Use the table for 7 and 8.

7. The Briggs rented a car for 5 weeks. What was the cost of their rental car per week?

\_\_\_\_\_

8. The Lees rented a car for 4 weeks. The Santos rented a car for 2 weeks. Whose weekly rental cost was lower? **Explain.**

\_\_\_\_\_  
\_\_\_\_\_

Rental Car Costs	
Family	Total Cost
Lee	\$632
Brigg	\$985
Santo	\$328

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Name: \_\_\_\_\_

# Long Division

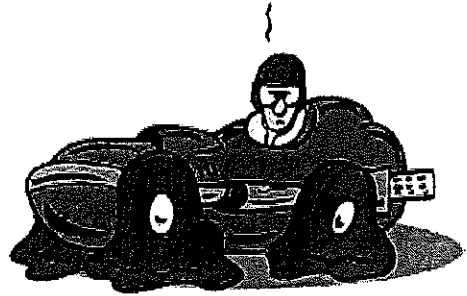
Three-Digit Quotients with Zeros

a.

$$3 \overline{) 2,428}$$

b.

$$6 \overline{) 1,834}$$



c.

$$2 \overline{) 1,580}$$

d.

$$6 \overline{) 3,657}$$

e.

$$7 \overline{) 1,476}$$

f.

$$8 \overline{) 4,056}$$

g.

$$2 \overline{) 1,103}$$

h.

$$8 \overline{) 2,410}$$



i.

**Joe's Tire Shop put 1,212 tires on cars this week. If each car had 4 tires, how many cars did they work on this week?**

Show your work and label your answer.

answer: \_\_\_\_\_

#

Name:

assignment: ~~QB test~~

# Good Luck with Your Division!

(1)	5)456	(2)	4)1247	(3)	7)829	(4)	6)2254	(5)	3)729
(6)	8)658	(7)	9)4437	(8)	5)3649	(9)	6)875	(10)	

**Homework****Divide.***Show your work.*

1.  $5 \overline{)456}$

2.  $4 \overline{)1,247}$

3.  $7 \overline{)829}$

4.  $6 \overline{)2,254}$

5.  $3 \overline{)729}$

6.  $8 \overline{)658}$

7.  $9 \overline{)4,437}$

8.  $5 \overline{)3,649}$

9.  $6 \overline{)875}$

**Solve.***Show your work.*

10. Sharon has 1,278 beads to make bracelets. She sorts them into 6 different containers so she can have an equal amount of beads in each container. How many beads will Sharon put in each container?
- 

11. Kyle collects baseball cards. He places his cards into an album that has 9 cards on each page. He has a total of 483 baseball cards. He fills each page before putting cards on the next page. How many cards will be on the last page?
-

Name: \_\_\_\_\_

Division: 4-Digit Dividends; 3-Digit Quotients

# Graph Paper Division

a.	5	1, 4 7 8	b.	4	3, 4 7 5	c.	3	1, 1 6 5
d.	4	3, 2 6 4	e.	7	2, 3 5 5	f.	3	2, 1 9 4
g.	4	2, 7 6 0	h.	6	2, 5 6 2	i.	8	3, 3 8 5



## Study Guide

Fill in the circle for the correct answer.

Solve.

Show your work.

1. A worker at the art store puts 280 paint brushes in 8 bins. Each bin has the same number of brushes. How many paint brushes are in each bin?

(A) 30  
(B) 35  
(C) 40  
(D) 45

2. There are 8 stickers in each package. If there are a total of 944 stickers, how many packages of stickers are there?

(F) 118  
(G) 113  
(H) 108  
(K) 103

3. There are 98 boxes of pencils at the store. There are 29 more boxes of chalk than pencils. There are 6 times as many boxes of crayons as chalk. Which shows how many boxes of crayons there are?

(A)  $98 + 29 = 117$ ;  $6 \times 117 = 702$ ; 702 boxes of crayons  
(B)  $98 + 29 = 117$ ;  $6 \times 117 = 662$ ; 662 boxes of crayons  
(C)  $98 + 29 = 127$ ;  $6 \times 127 = 722$ ; 722 boxes of crayons  
(D)  $98 + 29 = 127$ ;  $6 \times 127 = 762$ ; 762 boxes of crayons

4. Luke has 86 blue marbles and 45 orange marbles. He shares the marbles equally among himself and 2 friends. He keeps the leftover marbles for himself. Which shows how many marbles Luke has?

*Show your work.*

- (F)  $86 + 45 = 121$ ;  $121 \div 3$  is 40 R1; 40 marbles  
(G)  $86 + 45 = 121$ ;  $121 \div 3$  is 40 R1; 41 marbles  
(H)  $86 + 45 = 131$ ;  $131 \div 3$  is 43 R2; 43 marbles  
(K)  $86 + 45 = 131$ ;  $131 \div 3$  is 43 R2; 45 marbles

5. A game store manager receives 520 computer games. The manager puts 28 games in a rack at the front of the store. He arranges the rest equally on 6 shelves. How many games are on each shelf?

- (A)  $520 - 28 = 492$ ;  $492 \div 6 = 82$ ; 82 games  
(B)  $520 - 28 = 492$ ;  $492 \div 6 = 72$ ; 72 games  
(C)  $520 - 28 = 402$ ;  $402 \div 6 = 67$ ; 67 games  
(D)  $520 - 28 = 402$ ;  $402 \div 6 = 61$ ; 61 games

6. Four friends bought a tent for \$244 and sleeping bags for \$276. If they share the cost equally, how much will each friend pay?

- (F)  $\$244 + \$276 = \$520$ ;  $\$520 \div 4 = \$103$ ; \$103  
(G)  $\$244 + \$276 = \$420$ ;  $\$420 \div 4 = \$105$ ; \$105  
(H)  $\$244 + \$276 = \$520$ ;  $\$520 \div 4 = \$130$ ; \$130  
(K)  $\$244 + \$276 = \$420$ ;  $\$420 \div 4 = \$150$ ; \$150

Which estimate can be used to determine the most reasonable quotient?

7.  $7 \overline{)439}$

- (A)  $400 \div 10 = 40$                       (C)  $420 \div 7 = 60$   
(B)  $450 \div 9 = 50$                       (D)  $400 \div 5 = 80$



8.  $4 \overline{)1,764}$

Ⓕ  $1,000 \div 5 = 200$

Ⓗ  $1,600 \div 4 = 400$

Ⓖ  $1,500 \div 5 = 300$

Ⓚ  $1,800 \div 3 = 600$

9.  $6 \overline{)3,128}$

Ⓐ  $3,000 \div 10 = 300$

Ⓒ  $3,500 \div 5 = 700$

Ⓑ  $3,000 \div 6 = 500$

Ⓓ  $4,000 \div 5 = 800$

Use any method to solve.

10.  $6 \overline{)744}$

Ⓕ  $107 \text{ R}2$

Ⓖ  $114$

Ⓗ  $124$

Ⓚ  $127 \text{ R}2$

11.  $9 \overline{)926}$

Ⓐ  $102 \text{ R}8$

Ⓑ  $102 \text{ R}9$

Ⓒ  $120 \text{ R}8$

Ⓓ  $120 \text{ R}9$

12.  $8 \overline{)8,344}$

Ⓕ  $1,005 \text{ R}4$

Ⓖ  $1,040 \text{ R}4$

Ⓗ  $1,043$

Ⓚ  $1,403$

13.  $3 \overline{)470}$

Ⓐ  $190$

Ⓑ  $156 \text{ R}2$

Ⓒ  $153 \text{ R}1$

Ⓓ  $150$

14.  $4 \overline{)1,403}$

Ⓕ  $300 \text{ R}3$

Ⓖ  $320 \text{ R}3$

Ⓗ  $325 \text{ R}3$

Ⓚ  $350 \text{ R}3$

15.  $2 \overline{)5,752}$

Ⓐ  $2,876$

Ⓑ  $2,826$

Ⓒ  $2,376$

Ⓓ  $2,326$

16.  $7 \overline{)7,433}$

Ⓕ  $1,060 \text{ R}3$

Ⓖ  $1,061 \text{ R}6$

Ⓗ  $1,601 \text{ R}3$

Ⓚ  $1,601 \text{ R}6$

17.  $5 \overline{)9,189}$

- (A) 1,031 R4      (B) 1,037 R4      (C) 1,817 R4      (D) 1,837 R4

Solve.

*Show your work.*

18. Dasha has 149 balloons to put in party bags. She puts 3 balloons in each bag. Which shows how many bags Dasha needs, and how many balloons will be left over?

- (F)  $149 \div 3$  is 49 R2; 49 bags; 2 balloons left over  
(G)  $149 \div 3$  is 48 R2; 48 bags; 1 balloon left over  
(H)  $149 \div 3$  is 46 R1; 46 bags; 1 balloon left over  
(K)  $149 \div 3$  is 43; 43 bags; no balloons left over

19. A shop manager orders 32 boxes of scented candles. Each box contains 48 candles. Which shows how many candles the shop manager orders in all?

- (A)  $32 \times 48 = 1,426$ ; 1,426 candles  
(B)  $32 \times 48 = 1,436$ ; 1,436 candles  
(C)  $32 \times 48 = 1,526$ ; 1,526 candles  
(D)  $32 \times 48 = 1,536$ ; 1,536 candles

20. Some hobby store workers are shipping 187 boxes of model cars and 243 boxes of model airplanes. They ship 8 boxes of models in each carton. Which shows the least number of cartons they will need?

- (F)  $187 + 243 = 430$ ;  $430 \div 8$  is 53 R6; 53 cartons  
(G)  $187 + 243 = 430$ ;  $430 \div 8$  is 53 R6; 54 cartons  
(H)  $187 + 243 = 420$ ;  $420 \div 8$  is 42 R2; 42 cartons  
(K)  $187 + 243 = 420$ ;  $420 \div 8$  is 42 R2; 43 cartons