GRADE 3

MATHEMATICS PRACTICE WORKBOOK

2ND SEMESTER

Academic Year

2024 – 2025

INDEX

Name _____

Practice Video Tools Games

Additional Practice 4-1
Relate Multiplication and Division

Another Look!

Multiplication

6 rows of 4 glue sticks

$6 \times 4 = 24$

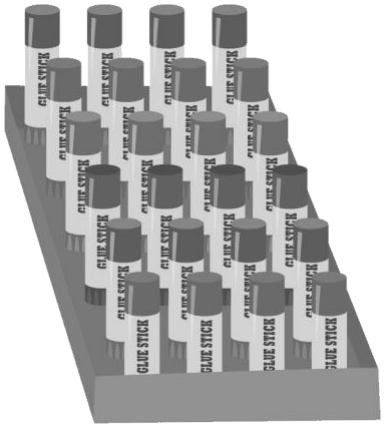
24 glue sticks

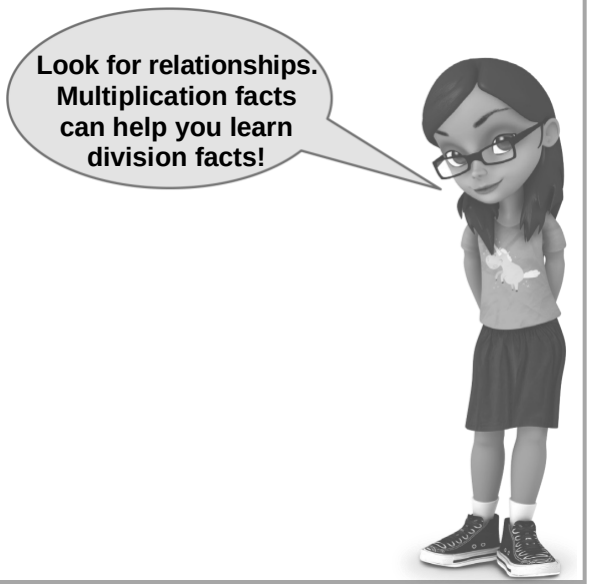
Division

24 glue sticks in 6 equal rows

$24 \div 6 = 4$

4 glue sticks in each





Here is the fact family for 4, 6, and 24:

$4 \times 6 = 24$ $\quad$ $24 \div 4 = 6$

$6 \times 4 = 24$ $\quad$ $24 \div 6 = 4$

In **1** and **2**, use the relationship between multiplication and division to complete each equation.

1. $2 \times 7 = 14$

$14 \div 2 =$ ___

2. $81 \div 9 = 9$

$9 \times$ ___ $= 81$

In **3–6**, write the fact family.

3. Write the fact family for 4, 7, and 28.

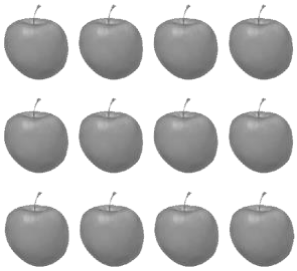
4. Write the fact family for 2, 10, and 20.

5. Write the fact family for 2, 8, and 16.

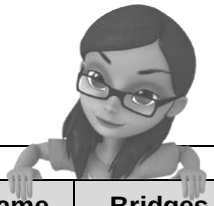
6. Write the fact family for 7, 8, and 56.

Name _____

7. Use the array to write a multiplication equation and a division equation.



8. **Higher Order Thinking** For every row of objects in an array there are 2 columns. The total number of objects in the array is 18. How many rows and columns does the array have?



9. **enVision®** STEM Julio's class was making bridges out of balsa wood to see which bridge could hold the most weight. Each of the 4 people in Julio's group made 2 bridges. What fact family represents the total bridges made by the group?

DATA

Name	Bridges Made
Julio	2
Rosa	2
Miguel	2
Clara	2

10. **Reasoning** There are 5 pairs of scissors in one package. Mrs. Hill bought 35 scissors for students in her art classes. How many packages did she buy?

11. Serena has a set of toy trains. She has 3 passenger cars. What is the total length of her passenger cars?

DATA

Serena's Train Cars	
Type	**Length in Inches**
Engine	4
Tender	3
Passenger Car	9
Caboose	7

Assessment Practice

12. Select numbers to create a multiplication equation that could be used to solve 14 ÷ 2 = ☐.

2	3	4	7	14	20

☐ × 2 = ☐

13. Select numbers to create a multiplication equation that could be used to solve 42 ÷ 7 = ☐.

2	3	6	7	24	42

☐ × 7 = ☐

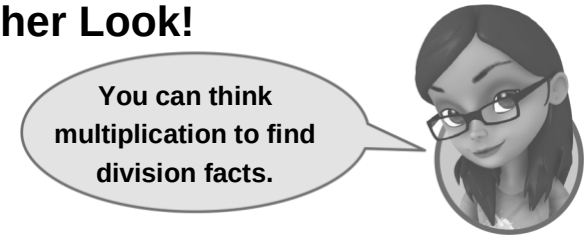
Name _____

Practice Video Tools Games

Additional Practice 4-2

Use Multiplication to Divide with 2, 3, 4, and 5

Another Look!



Find 16 ÷ 2.

What You Think	What You Write
2 × ? = 16 ↑ 2 times what number equals 16? 2 × 8 = 16	16 ÷ 2 = 8

Find 12 ÷ 3.

What You Think	What You Write
3 × ? = 12 ↑ 3 times what number equals 12? 3 × 4 = 12	12 ÷ 3 = 14

Find 24 ÷ 4.

What You Think	What You Write
4 × ? = 24 ↑ 4 times what number equals 24? 4 × 6 = 24	24 ÷ 4 = 6

Find 40 ÷ 5.

What You Think	What You Write
5 × ? = 40 ↑ 5 times what number equals 40? 5 × 8 = 40	40 ÷ 5 = 8

In **1–16**, find each quotient.

1. 14 ÷ 2 = ___ **2.** 35 ÷ 5 = ___ **3.** 15 ÷ 3 = ___ **4.** 32 ÷ 4 = ___

5. 9 ÷ 3 = ___ **6.** 18 ÷ 2 = ___ **7.** 16 ÷ 2 = ___ **8.** 21 ÷ 3 = ___

9. $2\overline{)12}$ **10.** $3\overline{)27}$ **11.** $5\overline{)25}$ **12.** $4\overline{)20}$

13. $5\overline{)30}$ **14.** $5\overline{)45}$ **15.** $2\overline{)10}$ **16.** $4\overline{)28}$

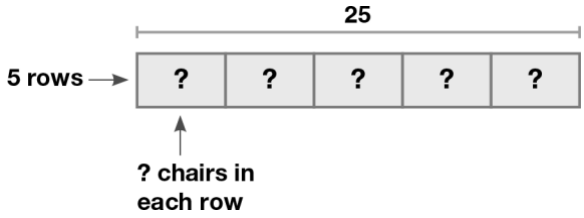
Name _____

17. **Be Precise** You have 18 erasers and use 3 erasers each month. How many months will your erasers last? Identify the quotient, dividend, and divisor.

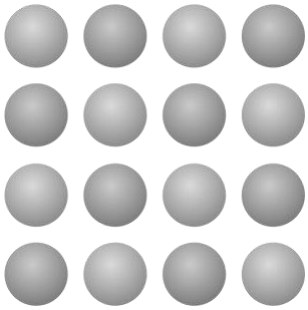
18. Write a fact family using the numbers 5, 6, and 30.

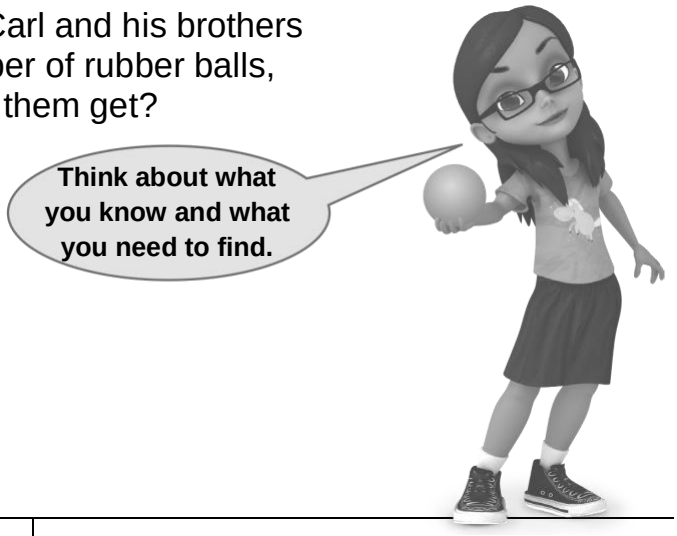
19. Paul drew two different polygons. One shape has 4 sides. The other shape has fewer than 4 sides. What could be the two shapes Paul drew?

20. Megan arranges 25 chairs into 5 equal rows. Write and solve an equation to find how many chairs are in each row.



21 **Higher Order Thinking** Carl has 16 rubber balls to share with his 2 brothers and 1 sister. If Carl and his brothers and sister each get the same number of rubber balls, how many rubber balls will each of them get?





Assessment Practice

23. Which expression can help you divide 40 ÷ 5?

A. 5 × 8

B. 5 × 7

C. 5 × 6

D. 5 × 5

24. Which expression can help you divide 16 ÷ 4?

A. 4 × 3

B. 4 × 4

C. 4 × 5

D. 4 × 6

Name _____

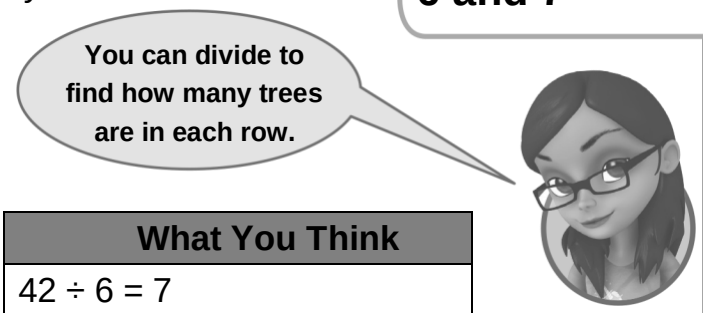
Practice Video Tools Games

Additional Practice 4-3

Use Multiplication to Divide with 6 and 7

Another Look!

Martha has 42 pine trees to plant on a plot of land. If Martha plants the trees in 6 equal rows, how many trees will be in each row? If she plants 7 equals rows, how many trees will be in each row?



Find 42 ÷ 6.

What You Think	What You Think
What number times 6 is 42? 7 × 6 = 42	42 ÷ 6 = 7 There will be 7 trees in each row.

Find 42 ÷ 7.

What You Think	What You Write
What number times 7 is 42? 6 × 7 = 42	42 ÷ 7 = 6 There will be 6 trees in each row.

In **1** and **2**, draw a bar diagram to find the quotient.

1. Find 56 ÷ 7.

2. Find 36 ÷ 6.

In **3–13**, find the quotient.

3. 30 ÷ 6 = ___

4. 28 ÷ 7 = ___

5. 42 ÷ 6 = ___

6. 54 ÷ 6 = ___

7. $6\overline{)48}$

8. $7\overline{)56}$

9. $7\overline{)70}$

10. $7\overline{)49}$

11. Divide 60 by 6.

12. Divide 7 by 7.

13. Find 21 divided by 7.

Name _____

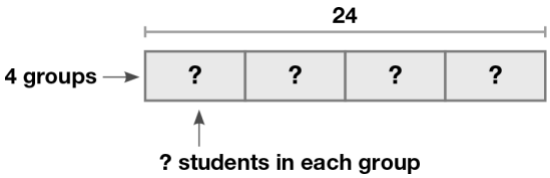
In **14** and **15**, use the picture at the right.

There are 7 sides on the birdhouse.

14. Each side of the birdhouse will need 9 nails. How many nails are needed for the whole birdhouse?

15. If only 7 nails are used on each side, how will the total number of nails needed change?

16. Twenty-four students are going to the zoo. They are going in 4 equal groups. Write and solve an equation to find how many students are in each group.



17. Make Sense and Persevere There are 42 roses in the garden. Diane picks 7 roses for each bouquet of flowers. How many bouquets can she make? How many more bouquets can Diane make if she uses 6 roses in each bouquet?

18 Higher Order Thinking Juanita read 48 pages. She read more than 5 chapters, but less than 10 chapters. All chapters are the same length. How many chapters could Juanita have read? How many pages are in those chapters?

19 Manny has 28 chapters in a book to read. He reads 7 chapters each week. How many weeks will it take for Manny to read the book?

Assessment Practice

20. Which multiplication fact can you use to help find the value of the unknown number in the equation $49 \div 7 = \square$?

A. 5×7

B. 6×7

C. 7×7

D. 8×7

21. Which multiplication fact can you use to help find the value of the unknown number in the equation $48 \div 6 = \square$?

A. 5×6

B. 6×6

C. 7×6

D. 8×6

Name _____

Practice Video Tools Games

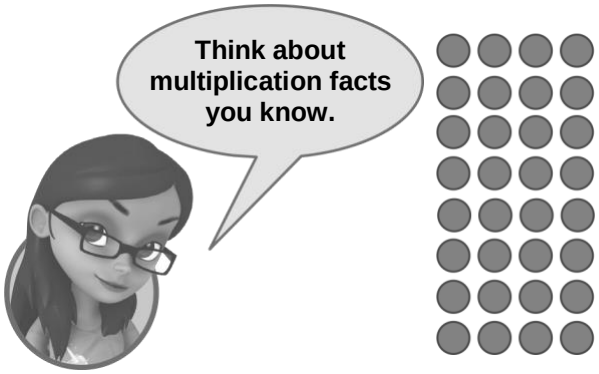
Additional Practice 4-4

Use Multiplication to Divide with 8 and 9

Another Look!

Multiplication facts can help you to find division facts when 8 or 9 is the divisor.

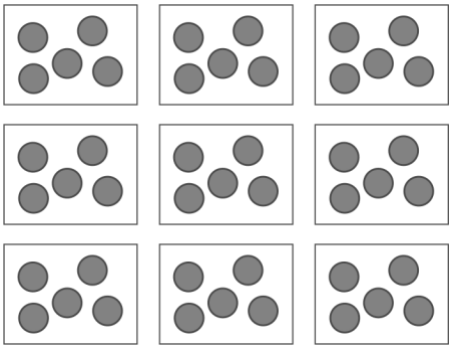
There are 32 counters. There are 8 rows of counters. How many counters are in each row?



Find 32 ÷ 8.

What You Think	What You Write
8 times what number equals 32? 8 × 4 = 32	32 ÷ 8 = 4 There are 4 counters in each row.

There are 45 counters. There are 9 equal groups. How many counters are in each group?



Find 45 ÷ 9.

What You Think	What You Write
9 times what number equals 45? 9 × 5 = 45	45 ÷ 9 = 5 There are 5 counters in each group.

In **1–3**, use the multiplication equation to help find each quotient.

1. 54 ÷ 9 = ?
9 × ___ = 54
So, 54 ÷ 9 = ___.

2. 24 ÷ 8 = ?
8 × ___ = 24
So, 24 ÷ 8 = ___.

3. 56 ÷ 8 = ?
8 × ___ = 56
So, 56 ÷ 8 = ___.

In **4–12**, find each quotient.

4. 36 ÷ 9 = ___

5. 63 ÷ 9 = ___

6. 80 ÷ 8 = ___

7. $9\overline{)72}$

8. $8\overline{)48}$

9. $9\overline{)81}$

10. $8\overline{)8}$

11. $9\overline{)90}$

12. $9\overline{)27}$

Name _____

13. Maluwa has 9 identical tiles. When she counts the total number of sides on the tiles, she gets 72. Draw a picture of what her tile could look like, and name that shape.

14. Each month Bailey deposits money in her savings account. Over 8 months, she has added $48. If Bailey deposited the same amount every month, how much is one deposit?

15. Construct Arguments The table at the right shows prices for matinee and evening movies. With $63, would you be able to buy more matinee tickets or evening tickets? Explain.

DATA

Movie Prices	
Matinee	$7
Evening Movie	$9

16. Teri scored 64 points in the first 8 basketball games she played in. She scored the same number of points in each game. Write and solve an equation to find the number of points Teri scored in each game.

17. Higher Order Thinking Adam made 19 paper cranes on Monday and 8 more on Tuesday. He gave all the cranes away to 9 friends so that each friend had the same number of cranes. How many cranes did each friend receive? Explain your answer.

Assessment Practice

18. Find 72 ÷ 8 by selecting numbers to complete the following equations. Numbers may be selected more than once.

2 3 6 8 9

8 × ☐ = 72

72 ÷ 8 = ☐

19. Find 27 ÷ 9 by selecting numbers to complete the following equations. Numbers may be selected more than once.

2 3 4 8 9

9 × ☐ = 27

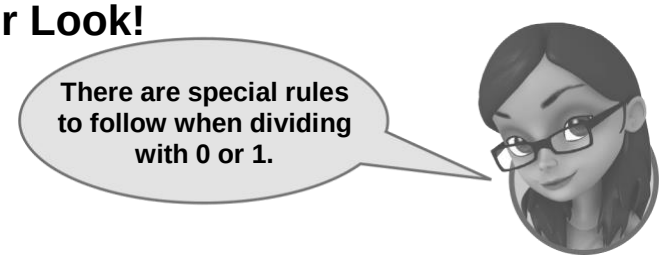
27 ÷ 9 = ☐

Name _____

Practice Video Tools Games

Additional Practice 4-6
Division Involving 0 and 1

Another Look!



Rule	Example	What You Think	What You Write
When any number is divided by 1, the quotient is that number.	7 ÷ 1 = ?	1 times what number is 7? 1 × 7 = 7 So, 7 ÷ 1 = 7.	7 ÷ 1 = 7 or $1\overline{)7}$
When any number (except 0) is divided by itself, the quotient is 1.	8 ÷ 8 = ?	8 times what number is 8? 8 × 1 = 8 So, 8 ÷ 8 = 1.	8 ÷ 8 = 1 or $8\overline{)8}$
When zero is divided by a number (except 0), the quotient is 0.	0 ÷ 5 = ?	5 times what number is 0? 5 × 0 = 0 So, 0 ÷ 5 = 0.	0 ÷ 5 = 0 or $5\overline{)0}$
You cannot divide a number by 0.	9 ÷ 0 = ?	0 times what number is 9? There is no number that works, so 9 ÷ 0 cannot be done.	9 ÷ 0 cannot be done.

In **1–8**, write the quotient.

1. 5 ÷ 1 = ___ **2.** 9 ÷ 9 = ___ **3.** 0 ÷ 8 = ___ **4.** 6 ÷ 6 = ___

5. 4 ÷ 1 = ___ **6.** $1\overline{)7}$ **7.** $8\overline{)8}$ **8.** $7\overline{)0}$

Name

In **9** and **10**, use the sign at the right.

9. **Be Precise** Aiden has $20. He spends all of his money on ride tickets. How many ride tickets does Aiden buy?

10. Tanji spends $8 on ride tickets and gives an equal number of tickets to each of 8 friends. How many tickets does each friend get?

11. Which of these has the greatest quotient: 6 ÷ 6, 5 ÷ 1, 0 ÷ 3, or 8 ÷ 8? Explain.

12. **Number Sense** Place the numbers 0, 1, 3, and 3 in the blanks so that the number sentence is true.

___ ÷ ___ > ___ ÷ ___

13. The number of students at Netherwood Elementary School is an odd number between 280 and 300. List all the possible numbers of students there could be.

14. **Higher Order Thinking** Write and solve a story problem that goes with 6 ÷ 6.

Assessment Practice

15. Use division properties to match each equation to its quotient.

	0	1
9 ÷ 9 = ?	☐	☐
0 ÷ 6 = ?	☐	☐
2 ÷ 2 = ?	☐	☐

16. Use division properties to match each equation to its quotient.

	0	1
7 ÷ 7 = ?	☐	☐
0 ÷ 1 = ?	☐	☐
0 ÷ 4 = ?	☐	☐

Name _____

Practice Video Tools Games

Additional Practice 4-7

Practice Multiplication and Division Facts

Another Look!

A class made popcorn for a carnival. Ten students each made 3 cups of popcorn. The students put the popcorn in bags that hold 6 cups each. Find the total number of cups. Then find how many bags of popcorn the students made.

You can solve the problems using multiplication and division.

Multiplication

How many total cups of popcorn did they make?

$10 \times 3 = ?$

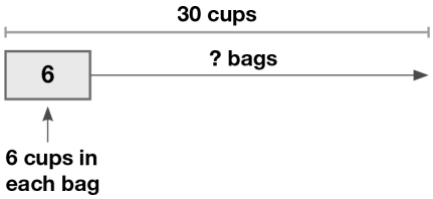
Number of students — Cups each student made — Total number of cups

$10 \times 3 = 30$

The students made a total of 30 cups of popcorn.

Division

How many groups of 6 are in 30?



Divide the total number of cups by the number of cups in each bag:

$30 \div 6 = 5$ ← Number of bags

The students made 5 bags of popcorn.

In **1–9**, use multiplication and division to complete the fact family.

1. $21 \div 3 = \_\_\_$
$3 \times \_\_\_ = 21$
$21 \div \_\_\_ = 3$
$\_\_\_ \times 3 = 21$

2. $\_\_\_ = 36 \div 6$
$36 = 6 \times \_\_\_$

3. $2 = \_\_\_ \div 9$
$\_\_\_ = 2 \times 9$
$9 = \_\_\_ \div 2$
$\_\_\_ = 9 \times 2$

4. $\_\_\_ = 54 \div 9$
$54 = 9 \times \_\_\_$
$9 = 54 \div \_\_\_$
$54 = \_\_\_ \times 9$

5. $18 \div 6 = \_\_\_$
$6 \times \_\_\_ = 18$
$18 \div \_\_\_ = 6$
$\_\_\_ \times 6 = 18$

6. $40 \div 5 = \_\_\_$
$5 \times \_\_\_ = 40$
$40 \div \_\_\_ = 5$
$\_\_\_ \times 5 = 40$

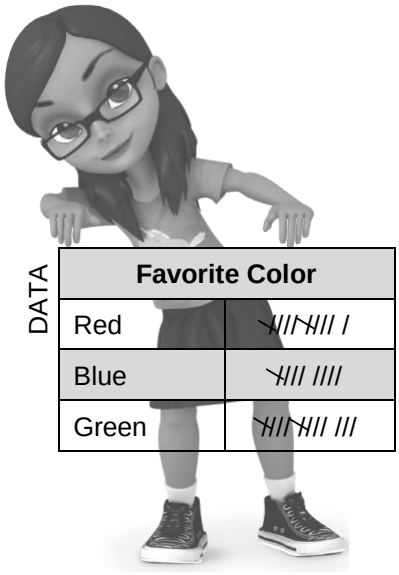
7. $14 \div 2 = \_\_\_$
$2 \times \_\_\_ = 14$
$14 \div \_\_\_ = 2$
$\_\_\_ \times 2 = 14$

8. $25 \div 5 = \_\_\_$
$5 \times \_\_\_ = 25$

9. $\_\_\_ = 32 \div 4$
$32 = 4 \times \_\_\_$
$4 = 32 \div \_\_\_$
$32 = \_\_\_ \times 4$

Name _____

In **10** and **11**, use the chart at the right.



DATA

Favorite Color	
Red	𝍸 𝍸 /
Blue	𝍸 ////
Green	𝍸 𝍸 ///

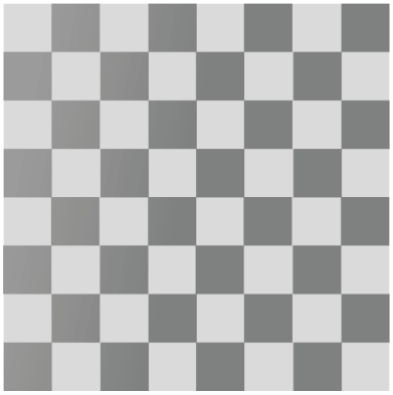
10. **Make Sense and Persevere** Ellis asked some classmates to name their favorite color. He recorded the information in this chart. How many classmates answered the question?

11. Suppose Ellis asked more classmates to name their favorite color. If 4 more classmates named blue this time, how many classmates named blue in all?

12. At a music recital, there are 30 chairs. They are set up in 6 equal rows. Find the number of columns.

13. A music teacher has 4 drum kits. Each kit has 2 drumsticks. Each drumstick costs $3. How many drumsticks does she have? What is the cost to replace them all?

14. **Higher Order Thinking** A chessboard has 8 rows of squares with 8 squares in each row. Two players each put 16 chess pieces on the board, with each piece on its own square. How many squares are empty now? Explain your answer.



Assessment Practice

15. Use the relationship between multiplication and division to find the value of each unknown.

Equation	Value of Unknown
24 ÷ 4 = ?	☐
4 × ? = 24	☐
8 = 56 ÷ ?	☐
8 × ? = 56	☐

16. Use properties of operations to find the value of each unknown.

Equation	Value of Unknown
7 ÷ 1 = ?	☐
? = 3 ÷ 3	☐
? = 9 × 1	☐
4 × 0 = ?	☐

Name _____

Practice Video Tools Games

Additional Practice 5-2
Use a Table to Multiply and Divide

Another Look!

Find 24 ÷ 6.

You can think of a division problem as a multiplication fact that is missing a factor.

A. Find the factor you already know in the first column of the table. In **6** × ? = 24, that factor is **6**.

B. Go across the row until you get to the product. In 6 × ? = **24**, the product is **24**.

C. Go straight to the top of that column. The number at the top of the column is 4.
So, the missing factor is 4 and 24 ÷ 6 = 4.

missing factor

×	0	1	2	3	4
0	0	0	0	0	0
1	0	1	2	3	4
2	0	2	4	6	8
3	0	3	6	9	12
4	0	4	8	12	16
5	0	5	10	15	20
6	0	6	12	18	**24**

factor product

In **1–3**, find the value that makes the equations correct. Use a multiplication table to help.

1. ___ = 8 ÷ 2

2 × ___ = 8

2. 12 ÷ 4 = ___

4 × ___ = 12

3. 16 ÷ 8 = ___

16 = 8 × ___

In **4** and **5**, find the missing factors and products.

4.

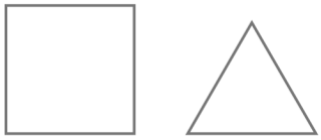
×	☐	6	☐
0			
☐		30	
9	45		63
☐		42	

5.

×	☐	☐	9
2	8		
☐			81
3		9	
☐			72

Name _____

6. Christina has these two tiles. Draw a new shape she can create with both tiles. Then name the shape and tell how many sides the new shape has.



7. There are 3 drawers in Mona's dresser. Each drawer has the same number of shirts. Mona has 27 shirts. How many shirts are in each drawer?

8. **Model with Math** A pet shop has 24 fish in 8 tanks, with an equal number of fish in each tank. Which multiplication fact can you use to find how many fish are in each tank?

9. **Algebra** Ethan went to the farmers' market and bought 57 pieces of fruit. He bought 15 pears, 22 apples, and some peaches. Write an equation to find how many peaches Ethan bought. Use an unknown to represent the number of peaches.

10. **enVision®** STEM There are 18 solar panels on a house. The solar panels are arranged in 3 equal columns. How many rows of solar panels are on this house? Explain how to solve the problem.

11. **Higher Order Thinking** Mike says he can use a multiplication table to find 5 ÷ 0. Is he correct? Explain.

Assessment Practice

12. Use the relationship between multiplication and division to find the missing number in 63 ÷ 7 = ☐.

A. 70

B. 56

C. 9

D. 8

×	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

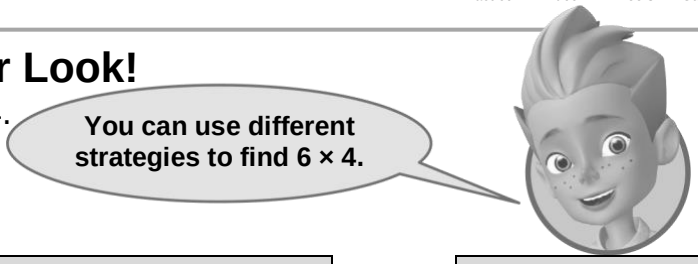
Name _____

Practice Video Tools Games

Additional Practice 5-3
Use Strategies to Multiply

Another Look!

Find 6 × 4.



One Way	Another Way
Draw a bar diagram and use skip counting. 6 × 4 means 6 groups of 4. Each section of the bar diagram is 1 group of 4. ? over 4 4 4 4 4 4 4 8 12 16 20 24 Skip count by 4s to solve. So, 6 × 4 = 24.	Using the Distributive Property is another way to solve this problem. Use 3s facts to help. 3 × 4 = 12 3 × 4 = 12 12 + 12 = 24 So, 6 × 4 = 24.

In **1** and **2**, show two different ways to find the product.

1. 3 × 5 = ?

? over 5 5 ___

5 10 ___

3 × 5 = ___

2 × 5 = ___

1 × 5 = ___

10 + ___ = ___

2. 3 × 4 = ?

? over 4 4 ___

4 8 ___

3 × 4 = ___

2 × 4 = ___

1 × 4 = ___

8 + ___ = ___

In **3–8**, multiply.

3. 7 × 2 = ___

4. ___ = 8 × 5

5. 6 × 8 = ___

6. 9 × 7 = ___

7. 4 × 8 = ___

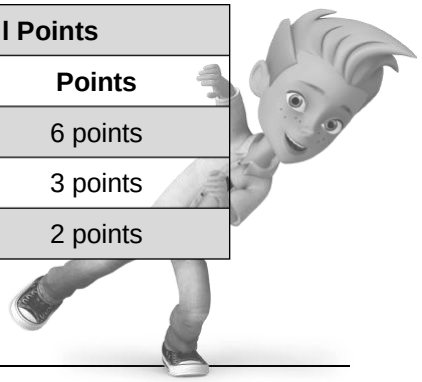
8. ___ = 7 × 3

Name _____

9. **Make Sense and Persevere** The home team scored 3 touchdowns. The visiting team scored 4 field goals. Which team scored more points? Show your strategy.

DATA

Football Points	
Type	**Points**
Touchdown	6 points
Field Goal	3 points
Safety	2 points



10. Rick says, "To find 2 × 5, I can skip count by 5s: 5, 10, 15, 20, 25. The product is 25." Explain what Rick did wrong.

11. **Algebra** Write the symbols to make the equations correct.

81 = 9 ☐9

9 ☐ 6 = 54

9 = 72 ☐ 8

12. **Higher Order Thinking** Jill has 4 bags of marbles. There are 3 red, 5 green, 2 yellow, and 6 black marbles in each bag. How many marbles does Jill have? Show how you found the answer.

13. Mr. Roberts plans to drive a total of 56 miles. He has 29 more miles to go. How many miles has he driven so far?

Assessment Practice

14. Which shows one way you could use properties of operations to find 5 × 2?

A. (5 × 2) × 2

B. 5 × (2 × 2)

C. (3 × 2) + (2 × 2)

D. (5 + 2) + (5 + 2)

15. Which multiplication equation could you use to help find 32 ÷ 8 = ☐?

A. 8 × 8 = 64

B. 4 × 8 = 32

C. 1 × 8 = 8

D. 4 × 4 = 16

Name _____

Practice Video Tools Games

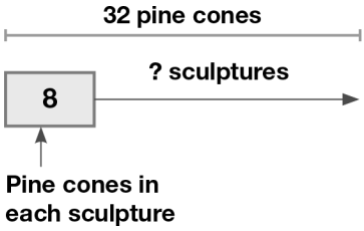
Additional Practice 5-4

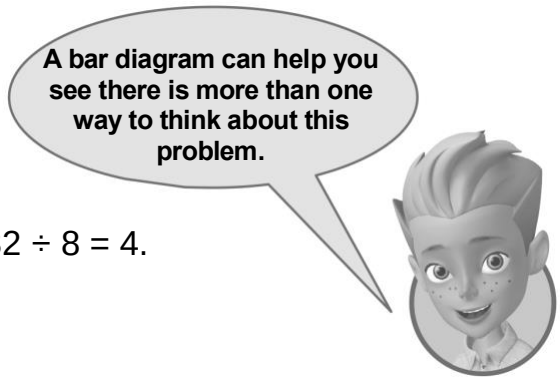
Solve Word Problems: Multiplication and Division Facts

Another Look!

Rico has 32 pine cones. He uses 8 pine cones to make a sculpture in art class. If Rico makes more sculptures with 8 pine cones for each, how many total sculptures can he make?

Draw a bar diagram to represent the problem.





Multiply or divide to solve: $4 \times 8 = 32$ or $32 \div 8 = 4$.

So, Rico can make 4 sculptures.

In **1** and **2**, draw a bar diagram to represent the problem. Then solve.

1. Victor buys some six-packs of soda for a party. He buys 42 cans in all. How many six-packs of soda did Victor buy?

2. Lester listens to 8 songs every time he does his exercise routine. He did his exercise routine 3 times this week. How many songs did Lester listen to while exercising this week?

In **3** and **4**, write an equation with an unknown to represent the problem. Then solve.

3. There are 9 players on a baseball team. A club has 9 baseball teams. How many baseball players are in the club?

4. Megan earned $4 for an hour of babysitting. On Saturday, she earned $16. How many hours did she babysit?

Name _____

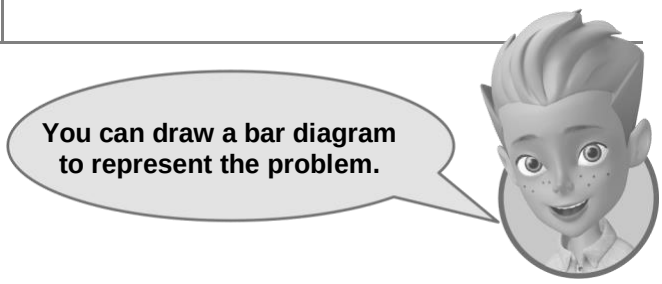
5. Andre is setting up folding chairs for a school assembly. He sets up 4 rows of chairs. Each row has 7 chairs. How many chairs does Andre set up? Complete the bar diagram and write an equation to solve.

6. **Higher Order Thinking** Thirty-six students ride a school bus home. The same number of students get off at each stop. Harriet knows how many students got off at one stop. How could she find how many stops the bus made?

7. Mr. Ameda has 4 children. He gives each of them 2 cookies. He spends $40 on the cookies. How much did each cookie cost?

8. Yogesh has 3 quarters, 1 dime, and 2 pennies. How much money does Yogesh have?

9. **Critique Reasoning** Neville and Anthony are solving this problem: Barbara bought 3 packages of pencils with 6 pencils in each package. How many pencils did she buy in all?



Neville says, “I add because of the words *in all*. The answer is 9 pencils.” Anthony says, “I multiply because there are equal groups. The answer is 18 pencils.” Who is correct? Explain.

Assessment Practice

10. Garrett uses 5 apples to bake an apple pie. On Sunday, he bakes 2 pies. How many apples does Garrett need on Sunday?

Select numbers and an operation to complete an equation that could be used to answer the problem. Then solve the equation.

2	3	5	8	+
9	10	6	25	×

? = ☐☐☐

? = ☐ apples

11. Ella has 27 apples. If Ella uses 3 apples to make each tart, how many tarts can Ella make?

Select numbers and an operation to complete an equation that could be used to answer the problem. Then solve the equation.

3	6	9	10	÷
20	27	33	72	×

? = ☐☐☐

? = ☐ tarts

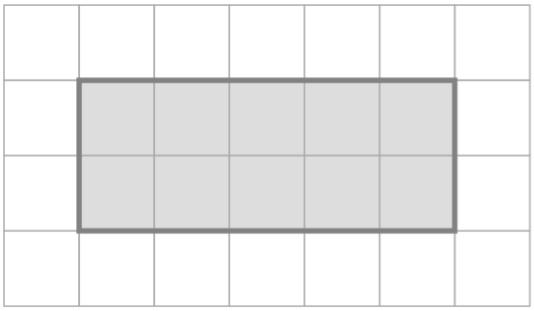
Name _____

Practice Video Tools Games

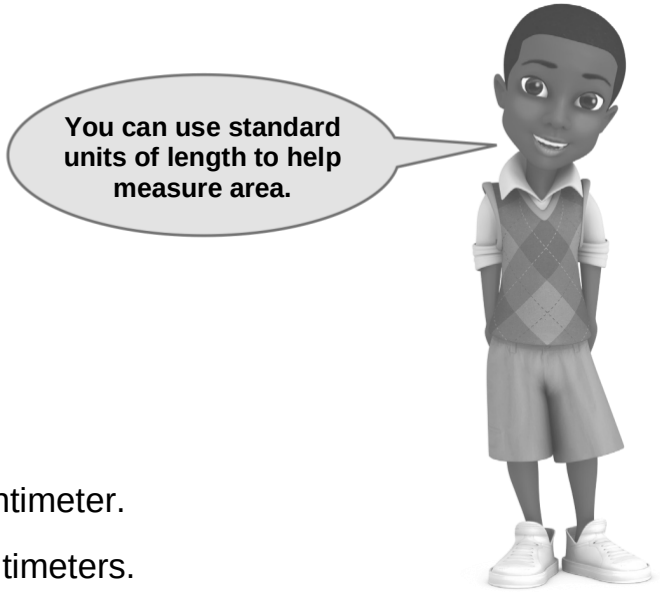
Additional Practice 6-3
Area: Standard Units

Another Look!

Count how many unit squares cover this figure.



= 1 square cm

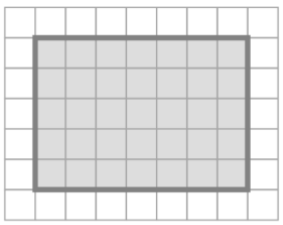


- 10 unit squares cover the figure.
- Each unit square equals 1 square centimeter.

The area of the figure is 10 square centimeters.

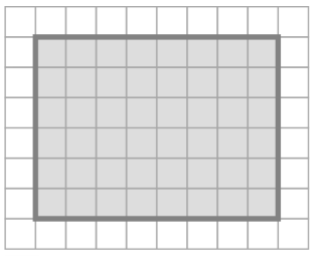
In **1–6**, each unit square represents a standard unit. Count the shaded unit squares. Then write the area.

1.



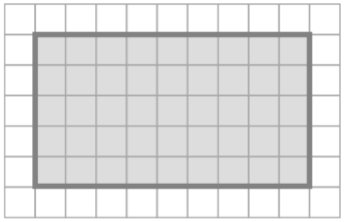
☐ = 1 square cm

2.



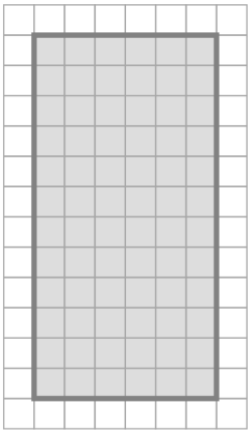
☐ = 1 square ft

3.



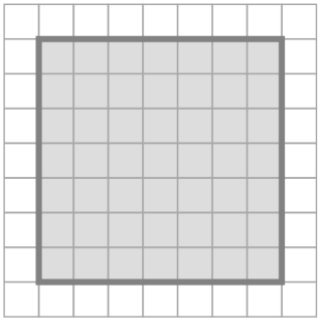
☐ = 1 square m

4.



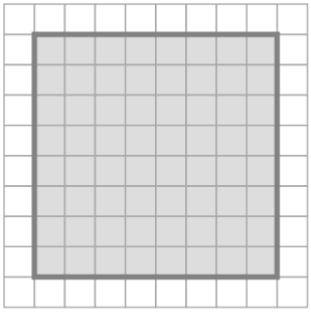
☐ = 1 square m

5.



☐ = 1 square cm

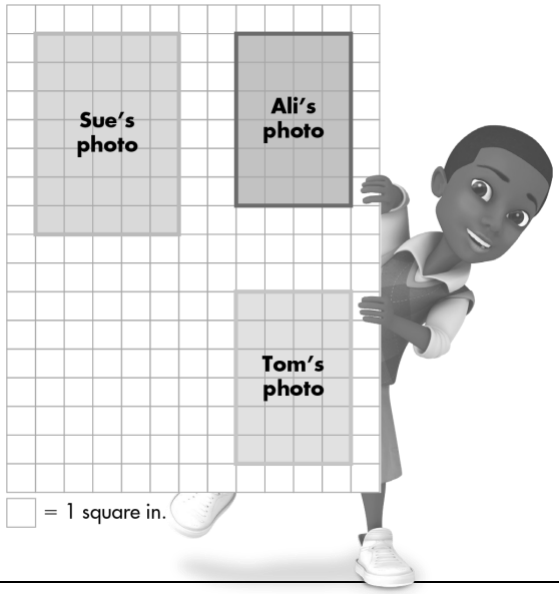
6.



☐ = 1 square in.

Name _____

In **7** and **8**, use the diagram at the right.



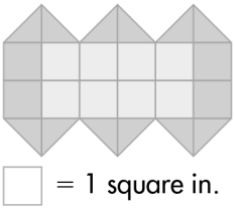
7. **Be Precise** What is the area of Tom's photo? Explain how you know which units to use.

8. What is the area in square inches of all the photos combined? Explain.

9. Is the area of a desk more likely to be 8 square feet or 8 square inches? Explain.

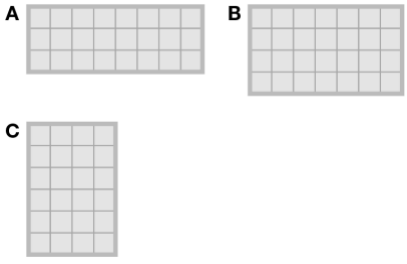
10. Michele has 5 coins worth $0.75 in all. What coins does she have?

11. **Higher Order Thinking** Sam made the shape at the right from colored tiles. What is the area of the shape? Explain how you found your answer.



Assessment Practice

12. Each of the unit squares in Shapes A–C represent 1 square meter. Select numbers to tell the area of each shape.



1	2	4	6	7	8

Shape A ☐☐ square meters

Shape B ☐☐ square meters

Shape C ☐☐ square meters

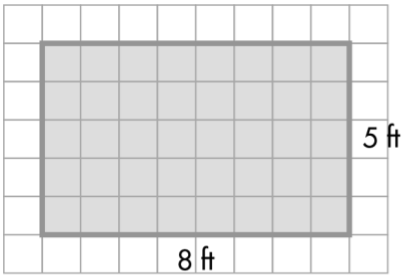
Name _____

Practice Video Tools Games

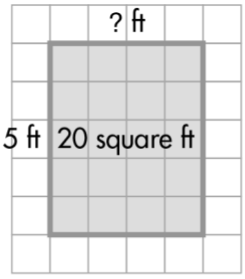
Additional Practice 6-4
Area of Squares and Rectangles

Another Look!

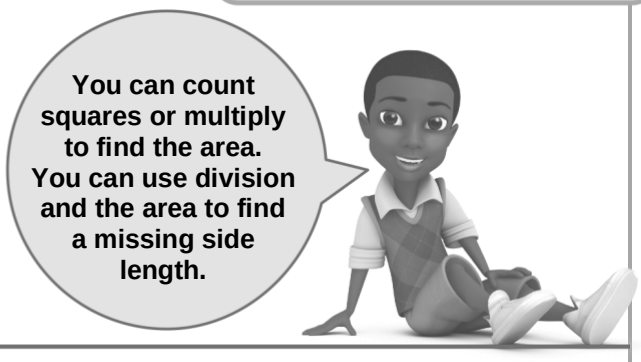
What is the area of Rectangle A? What is the length of Rectangle B?



Rectangle A



Rectangle B



A. You can count the number of unit squares in Rectangle A to find its area. There are 40 unit squares. Each unit square is 1 square foot.

You also can count the number of rows and multiply that number by the number of squares in each row.

5 × 8 = 40 square feet

B. The area of Rectangle B is 20 square feet, and the width is 5 feet.

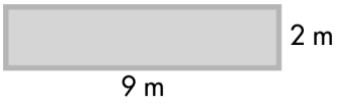
20 = 5 × ?

You can use division to find the length of Rectangle B.

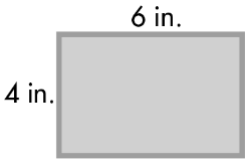
20 ÷ 5 = 4 feet

In **1–3**, find the area.

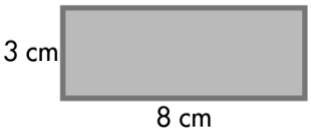
1.



2.

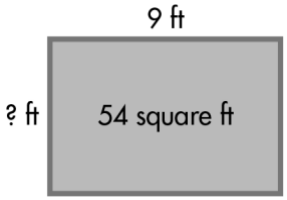


3.

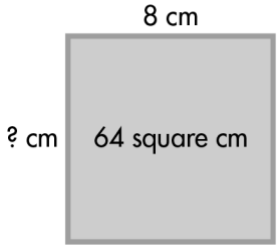


In **4–6**, find the missing length of one side. Use grid paper to help.

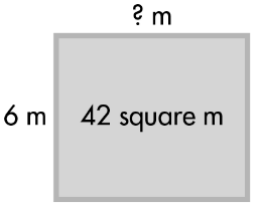
4.



5.



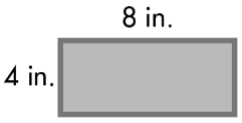
6.



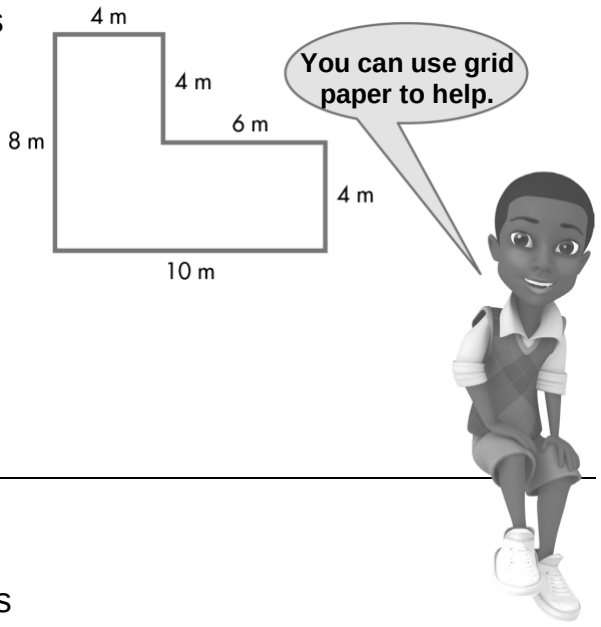
Name _____

7. **Number Sense** Rachel's family went on a car trip. They traveled 68 miles the first day. They traveled 10 fewer miles the second day. They traveled 85 miles the third day. How many miles did they travel?

8. **Critique Reasoning** Diane says that the area of this shape is 32 square inches, because 4 × 8 = 32. Do you agree? Explain.



9. **Higher Order Thinking** Rubin drew this diagram of his garden. How can you divide the shape to find the area? What is the area of the garden?

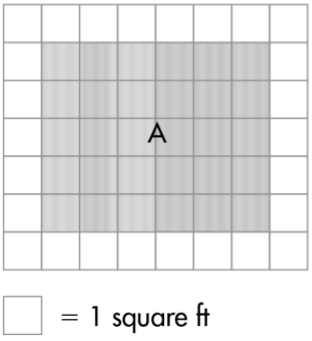


Assessment Practice

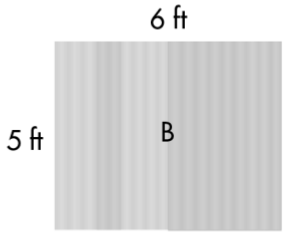
10. Jerry builds shelves. Two of his shelves are shown. Select all the true statements about Jerry's shelves.

- ☐ You can find the area of Shelf A by counting the unit squares.
- ☐ You can find the area of Shelf B by multiplying the side lengths.
- ☐ The areas of Shelves A and B are equivalent.
- ☐ The area of Shelf A is 30 square feet.
- ☐ The area of Shelf B is 30 square feet.

Shelf A



Shelf B



Name _____

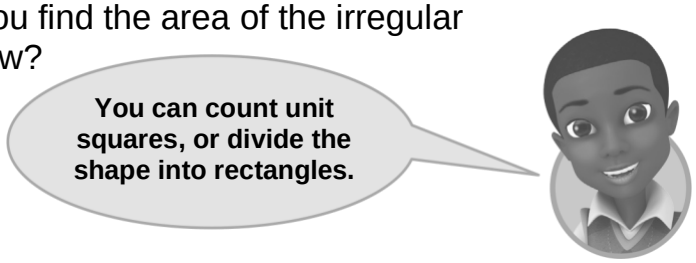
Practice Video Tools Games

Additional Practice 6-6

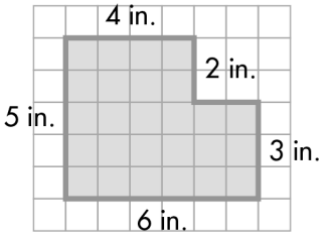
Apply Properties: Area of Irregular Shapes

Another Look!

How can you find the area of the irregular shape below?

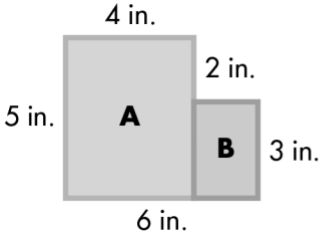


Place the shape on grid paper. Then you can count unit squares.



The area of the irregular shape is 26 square inches.

You can divide the shape into rectangles. Find the area of each rectangle. Then add the areas.



A: $5 \times 4 = 20$

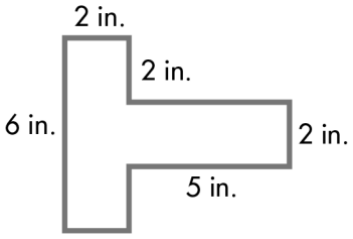
B: $3 \times 2 = 6$

$20 + 6 = 26$

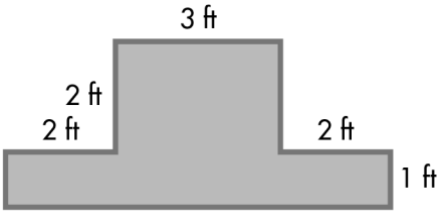
The area of the irregular shape is 26 square inches.

In **1–4**, find the area of each irregular shape. Use grid paper to help.

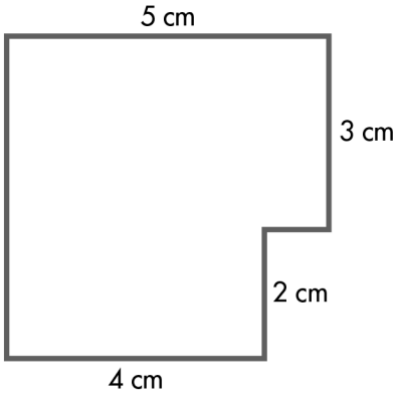
1.



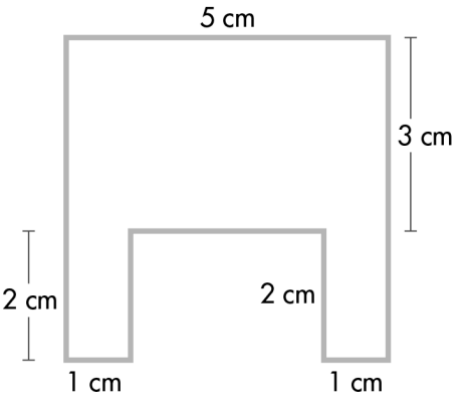
2.



3.

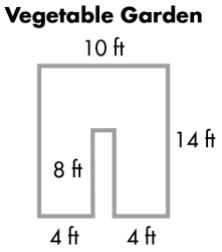


4.



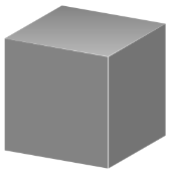
Name _____

5. **Reasoning** Tony made this diagram of his vegetable garden. What is the total area? Explain your reasoning.

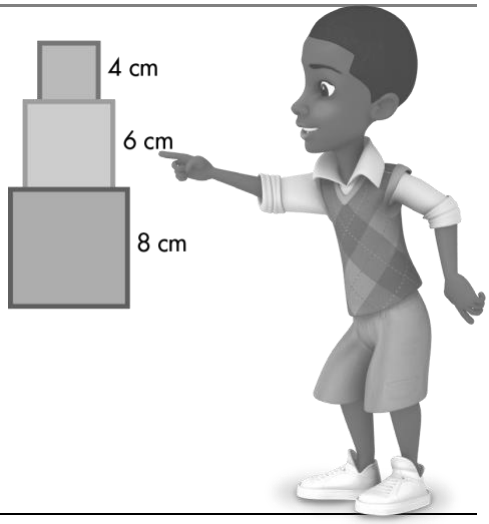


6. **enVision®** STEM Mr. Thomson wants to protect his garage by installing a flood barrier. He connects 2 barriers side by side. Each barrier is 9 feet long by 2 feet high. What is the combined area of the barriers?

7. **Number Sense** Hadori made this solid figure by paper folding. What is the name of the figure she made? How many faces, edges, and vertices does it have?

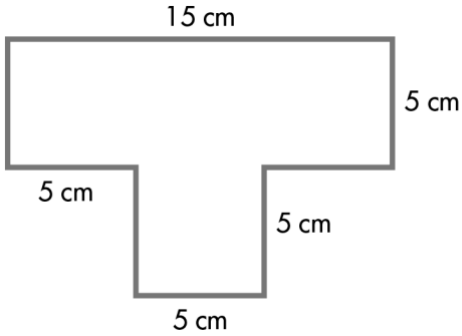


8. **Higher Order Thinking** Jordan made this design from three pieces of square-shaped cloth. What is the total area of the design Jordan made? Explain how you found your answer.



Assessment Practice

9. Daniel drew the figure at the right. Draw lines to show how you can divide the figure to find the area. Then select the correct area for the figure at the right.



A. 25 square centimeters

B. 50 square centimeters

C. 75 square centimeters

D. 100 square centimeters

Name _____

Practice Video Tools Games

Additional Practice 7-1
Read Picture Graphs and Bar Graphs

Another Look!

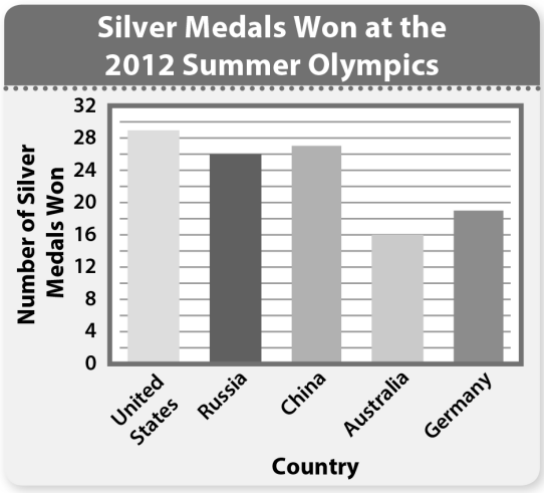
You can use a picture graph or a bar graph to represent and interpret data.

Picture graphs use pictures or parts of pictures to represent data.

Gold Medals Won at 2010 Vancouver Winter Olympics	
Sweden	
France	
Switzerland	
Russia	
Each = 1 gold medal.	

Picture graphs have keys to explain the scale being used and what each picture represents.

Bar graphs use bars to represent data.



Bar graphs have scales that show the units used.

Each line in this bar graph represents 2 medals.

In **1–4**, use the picture graph at the right.

1. How many houses were built in City B and City F combined?

2. How many more houses were built in City D than in City E in 1 year?

3. What does the half of a house represent in the data for City A?

4. How many more houses were built in City A than in City C?

Number of Houses Built in 1 Year	
City A	
City B	
City C	
City D	
City E	
City F	
Each = 10 houses. Each = 5 houses.	

Name _____

In **5–8**, use the picture graph at the right.

5. Compare the number of books Tamika read to the number of books Anders and Miguel combined read. Use the symbol >, <, or =.

6. **Reasoning** Which students read at least double the number of books that Anders read?

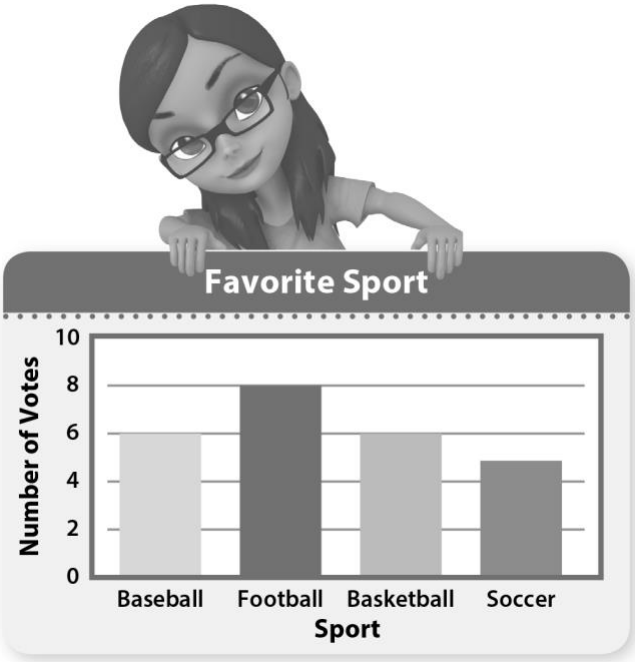
Books Read	
Nancy	📖📖📖📖📖▯
Tamika	📖📖📖📖📖📖📖
Jamal	📖📖📖📖
Phil	📖📖📖📖▯
Anders	📖📖▯
Miguel	📖📖
Each 📖 = 4 books. Each ▯ = 2 books.	

7. Which students read fewer than 12 books?

8. **Higher Order Thinking** How many more books did Tamika and Jamal read combined than Nancy and Anders combined?

Assessment Practice

In **9** and **10**, use the bar graph at the right.



9. How many fewer votes did soccer receive than baseball?

A. 1 vote

B. 2 votes

C. 3 votes

D. 4 votes

10. How many more votes did football and baseball receive than soccer and basketball?

A. 1 vote

B. 2 votes

C. 3 votes

D. 4 votes

Name _____

Practice Video Tools Games

Additional Practice 7-2
Make Picture Graphs

Another Look!

The frequency table shows items that were ordered for lunch.

Follow the steps below to learn how to make a scaled picture graph.

DATA

Items Ordered		
Food	**Tally**	**Number**
Pasta	𝍸 /	6
Salad	////	4
Casserole	𝍸 𝍸	10
Fish	𝍸 ////	9

Items Ordered	
Pasta	
Salad	
Casserole	
Fish	
Each = 2 meals.	
Each = 1 meal.	

Step 1
Write a title that explains what the picture graph shows.

Step 2
Choose a symbol and a scale.

Step 3
Draw in the graph the number of symbols that are needed for each item.

1. Complete the frequency table to show how Ms. Hashimoto's class voted for their favorite type of movie.

DATA

Favorite Type of Movie		
Type	**Tally**	**Number**
Action	𝍸 ///	
Comedy	///	
Drama	𝍸 /	
Animated	𝍸 𝍸	

What was the difference in votes between the most popular movie type and the least popular movie type?

2. Use the table in Exercise 1 to complete the picture graph.

_____	
Action	
Comedy	
Drama	
Animated	
Each = ___ votes.	
Each = ___ vote.	

How did you choose the number that each symbol represents?

Name _____

3. **enVision®** STEM There are 61 days in March and April. Mrs. Dorsey recorded 18 sunny days in March and 12 sunny days in April. How many days were not sunny?

4. **Vocabulary** A _____ can also be used to represent and compare the same data set using bars instead of pictures or symbols.

In **5–7**, use the picture graph at the right.

5. Pamela made this picture graph showing 14 students' favorite drinks. She drew 3 glasses to represent the 6 students who chose chocolate milk. Is her picture graph correct? Explain.

Favorite Drink	
Chocolate milk	
Orange juice	
Each  = 2 students.	

6. **Higher Order Thinking** How would Pamela's picture graph change if 12 students chose grape juice as their favorite drink?

7. **Make Sense and Persevere** How could the scale change if her picture graph showed the favorite drinks of 70 students?

Assessment Practice

8. April counted cars painted 4 different colors. She made a frequency table to record the total number of cars for each color. Complete the picture graph to represent her data. Write the scale you used in the key.

Color of Cars	
Red	
Green	
Silver	
Black	

DATA

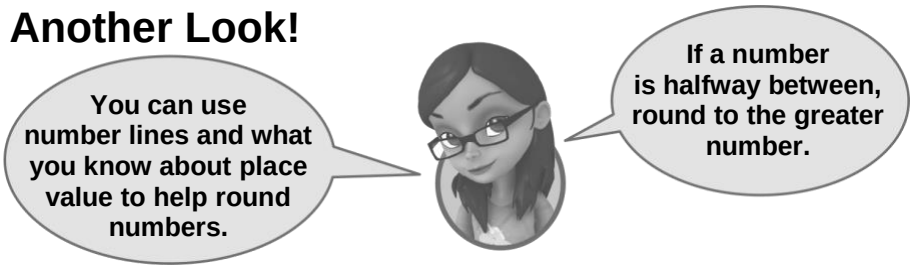
Color of Cars		
Color	**Tally**	**Number**
Red	𝍸 𝍸 𝍸 I	16
Green	𝍸 𝍸 𝍸 𝍸	20
Silver	𝍸 𝍸 𝍸 𝍸 IIII	24
Black	𝍸 𝍸 IIII	14

Name _____

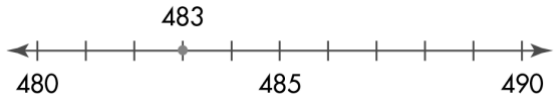
Practice Video Tools Games

Additional Practice 8-5
Round Whole Numbers

Another Look!

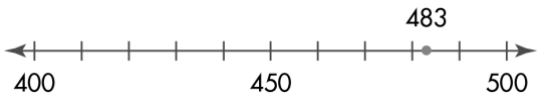


Round 483 to the nearest ten.



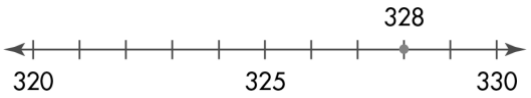
483 is closer to 480 than 490, so 483 rounds to 480.

Round 483 to the nearest 100.

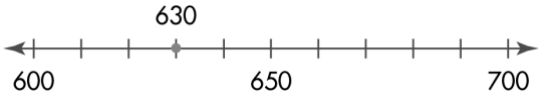


483 is closer to 500 than 400, so 483 rounds to 500.

1. Round 328 to the nearest ten.

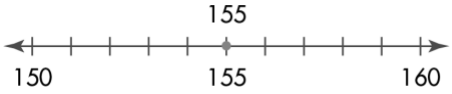


2. Round 630 to the nearest hundred.



3. Round 649 to the nearest hundred.

4. Round 155 to the nearest ten.



5. Round 262 to the nearest ten.

6. Round 753 to the nearest hundred.

7. Round 429 to the nearest ten and hundred.

8. Round 234 to the nearest ten and hundred.

Name _____

9. Use the number line to show a number that rounds to 170 when it is rounded to the nearest ten.

10. Higher Order Thinking When this 3-digit number is rounded to the nearest hundred, it rounds to 900. The digit in the ones place is the fifth odd number you count beginning with 1. The sum of the digits is 22. What is the number?

11. Make Sense and Persevere I have 1 flat surface. I have 1 vertex. You can trace my flat surface to make a circle. Which shape am I? Circle the correct solid figure.

12. Algebra There are 254 counties in Texas. Zane rounds the number of counties to the nearest ten. What is the difference between the actual number of counties and Zane's rounded number? Solve this problem using an equation and an unknown.

Assessment Practice

13. Select all the numbers that will equal 400 when rounded to the nearest hundred.

- ☐ 351
- ☐ 369
- ☐ 401
- ☐ 413
- ☐ 448

14. Select all the numbers that will equal 40 when rounded to the nearest ten.

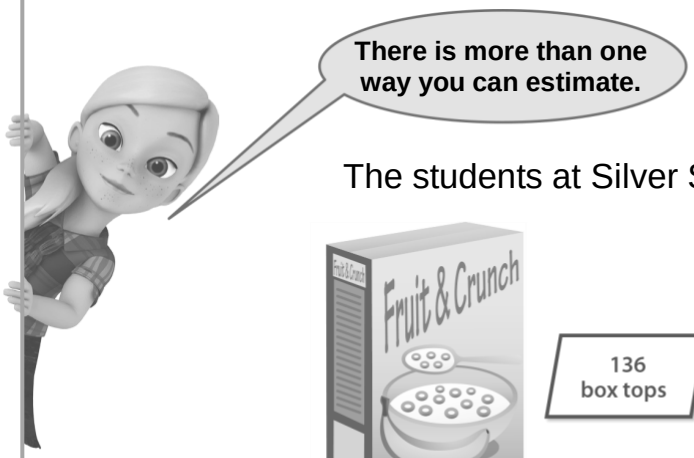
- ☐ 39
- ☐ 42
- ☐ 45
- ☐ 50
- ☐ 51

Name _____

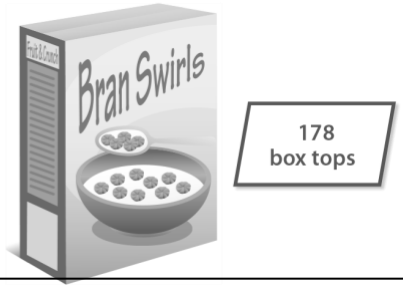
Practice Video Tools Games

Additional Practice 8-6
Estimate Sums

Another Look!



The students at Silver School are saving cereal box tops.



About how many box tops have the students saved?
When you find *about* how many, you estimate.

Estimate by rounding each addend. Then, add the rounded numbers.

Round to the nearest ten.

$$\begin{array}{r} 136 \rightarrow 140 \\ +\ 178 \rightarrow 180 \\ \hline 320 \end{array}$$

The students have saved about 320 box tops.

Round to the nearest hundred.

$$\begin{array}{r} 136 \rightarrow 100 \\ +\ 178 \rightarrow 200 \\ \hline 300 \end{array}$$

The students have saved about 300 box tops.

In **1–4**, round to the nearest ten to estimate.

1. $\begin{array}{r} 144 \rightarrow \_\_\_ \\ +\ 298 \rightarrow \_\_\_ \\ \hline \_\_\_ \end{array}$

2. $\begin{array}{r} 271 \rightarrow \_\_\_ \\ +\ 487 \rightarrow \_\_\_ \\ \hline \_\_\_ \end{array}$

3. $\begin{array}{r} 225 \rightarrow \_\_\_ \\ +\ 294 \rightarrow \_\_\_ \\ \hline \_\_\_ \end{array}$

4. $\begin{array}{r} 359 \rightarrow \_\_\_ \\ +\ 107 \rightarrow \_\_\_ \\ \hline \_\_\_ \end{array}$

In **5–8**, round to the nearest hundred to estimate.

5. 291 + 268

6. 378 + 136

7. 436 + 309

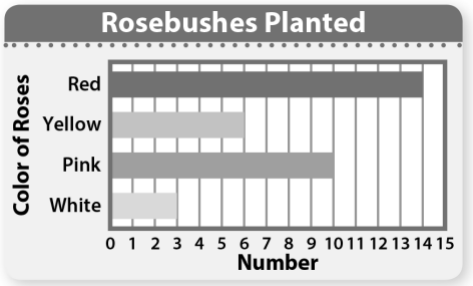
8. 365 + 487

Name _____

9. **Critique Reasoning** Sun-Yi estimated 270 + 146 and got 320. Is her estimate reasonable? Explain.

10. **Vocabulary** Miguel has 334 baseball cards and 278 football cards. He says, "I have 612 cards in all." Is that reasonable? Explain using the words *round* and *estimate*.

11. Paige and her friend Karla planted 4 types of rosebushes for the Dundee Community Center. The bar graph at the right shows the color and number of each bush the girls planted. How many more red and pink rosebushes were planted than yellow and white rosebushes?



12. **Higher Order Thinking** On Monday, Cheryl drove from Austin to Fort Worth and back to Austin. On Tuesday, she drove from Austin to Jackson. Find about how far Cheryl drove to the nearest ten miles and to the nearest hundred miles.

DATA

Distances from Austin, TX	
City	**Miles Away**
Memphis, TN	643
Fort Worth, TX	189
Jackson, MS	548

Assessment Practice

13. Round to the nearest 10 to estimate the sums.

	Estimate
355 + 198 is about	
342 + 221 is about	
131 + 422 is about	

14. Round to the nearest 100 to estimate the sums.

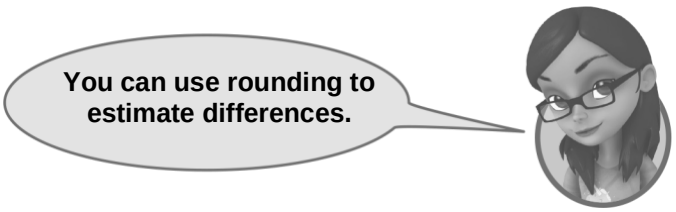
	Estimate
573 + 65 is about	
355 + 398 is about	
184 + 475 is about	

Name _____

Practice Video Tools Games

Additional Practice 8-7
Estimate Differences

Another Look!



Members of the Biology Club caught 288 butterflies and 136 grasshoppers in their nets. About how many more butterflies than grasshoppers did the club catch?

When you find *about* how many, you estimate. You can estimate by rounding.

Round to the nearest hundred.

288 → 300
– 136 → 100
200

There were about 200 more butterflies than grasshoppers caught.

Round to the nearest ten.

288 → 290
– 136 → 140
150

There were about 150 more butterflies than grasshoppers caught.

In **1–8**, round to the nearest hundred to estimate.

1. 584 → ___
   – 347 → ___

2. 274 → ___
   – 147 → ___

3. 615 → ___
   – 523 → ___

4. 831 → ___
   – 143 → ___

5. 422 – 142

6. 725 – 278

7. 682 – 224

8. 363 – 187

In **9–16**, round to the nearest ten to estimate.

9. 146 → ___
   – 118 → ___

10. 428 → ___
    – 332 → ___

11. 588 → ___
    – 491 → ___

12. 351 → ___
    – 106 → ___

13. 654 – 585

14. 355 – 186

15. 274 – 207

16. 522 – 330

17. Number Sense Duncan says, "Because 6 is greater than 3, 65 is greater than 344." Do you agree? Explain.

18. On Friday, 537 people attended a play. On Saturday, 812 people attended the same play. About how many more people attended the play on Saturday than on Friday? How did you estimate?

19. Andrew has the coins shown at the right. He wants to buy a comic book for $1.00. How much more money does he need to make 1 dollar?

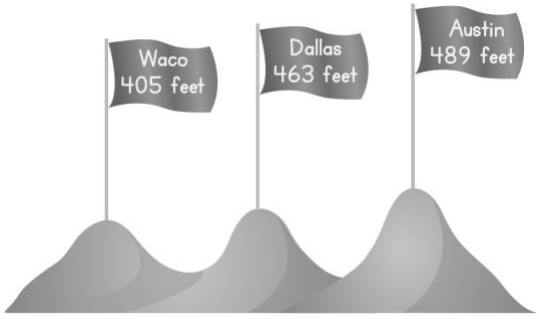
20. Model with Math Lori lives 272 miles from her grandparents, 411 miles from her aunt, and 39 miles from her cousins. About how much closer does Lori live to her grandparents than to her aunt? Explain what math you used.

21. Higher Order Thinking Carl is estimating 653 – 644. His work is shown below.

    700 – 600 = 100

    What is the actual difference? Is Carl's estimate reasonable? If not, how could he have made a closer estimate?

22. Tyrel recorded the elevations of three cities. Estimate how many more feet Dallas's elevation is than Waco's.



Assessment Practice

23. Estimate 851 – 242 by rounding each number to the nearest ten.

    A. 620 B. 610

    C. 600 D. 590

24. Estimate 904 – 312 by rounding each number to the nearest hundred.

    A. 600 B. 500

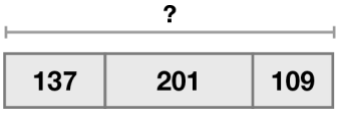
    B. 400 D. 300

Practice Video Tools Games

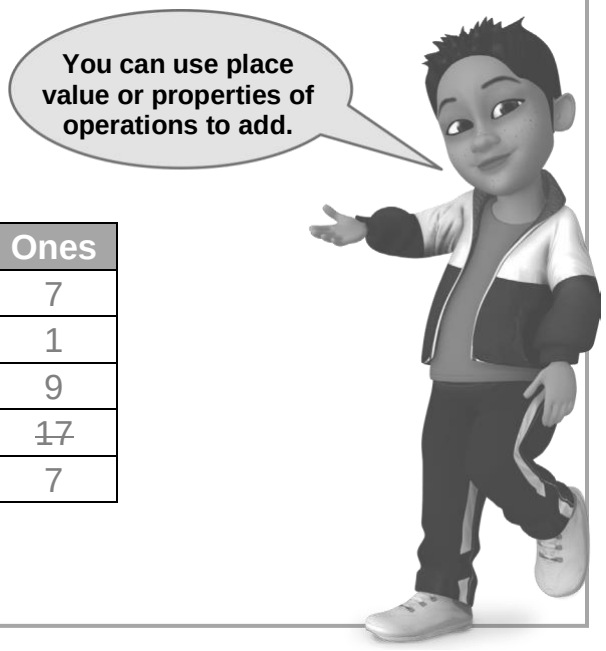
Additional Practice 9-3
Add 3 or More Numbers

Another Look!

Find 137 + 201 + 109.



To add three numbers, use partial sums or column addition.



Use partial sums.

$$\begin{array}{r} 137 \\ 201 \\ +\ 109 \\ \hline 400 \\ 30 \\ +\ 17 \\ \hline 447 \end{array}$$

Use column addition.

	Hundreds	Tens	Ones
	1	3	7
	2	0	1
+	1	0	9
	4	3	~~17~~
	4	4	7

So, 137 + 201 + 109 = 447.

In **1–3**, estimate and then find each sum.

1. 35 + 63 + 76

2. 149 + 22 + 314

3. 255 + 128 + 312

In **4–9**, find each sum.

4.
$$\begin{array}{r} 39 \\ +\ 87 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 293 \\ 312 \\ +\ 78 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 25 \\ 238 \\ 75 \\ +\ 180 \\ \hline \end{array}$$

7. 150 + 125 + 350

8. 382 + 164 + 267

9. 46 + 461 + 309

10. Generalize To subtract 178 – 135 mentally, Carmine adds 5 to each number. Karen adds 2 to each number. Will both methods work to find the correct answer? Why or why not?

11. Higher Order Thinking On Friday, 215 people went to the street fair. On Saturday, 163 more people went to the street fair than on Friday. On Sunday, 192 people went. In total how many people went to the fair? What are two ways you can use to find the answer?

12. The table shows what Carlos had for breakfast. How many calories did Carlos consume? Write an equation to solve the problem.

DATA

Food	Amount	Calories
Bran flakes	1 ounce	90
Banana	1	105
Orange juice	1 cup	110
Milk	1 cup	150

Assessment Practice

13. Use place value, partial sums, or properties of operations to find each sum.

Equation	Sum
22 + 257 + 178 = ?	
122 + 241 + 378 = ?	
252 + 167 + 314 = ?	

14. Use place value, column addition, or properties of operations to find each sum.

Equation	Sum
250 + 250 + 178 = ?	
131 + 32 + 68 = ?	
152 + 237 + 576 = ?	

Practice Video Tools Games

Additional Practice 9-6

Use Strategies to Add and Subtract

Another Look!

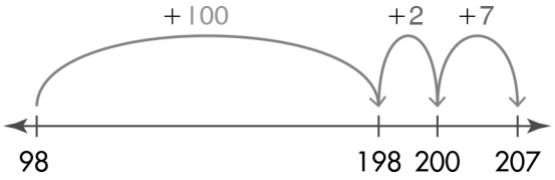
Find 207 – 98.

Remember, you can use addition to solve because addition and subtraction are inverse operations. You can also use estimation to see if your answer is reasonable.

One Way

Use the adding on strategy.

Find 98 + ? = 207.



100 + 2 + 7 = 109

207 – 98 = 109

Another Way

Use partial differences to subtract.

Find 207 – 98 = ?.

207
– 7 Subtract 7.
200
– 90 Subtract 90.
110
– 1 Subtract 1.
109

In **1–16**, find each sum or difference. Then use estimation to see if your answer is reasonable.

1. 518 − 339

2. 401 − 137

3. 856 + 92

4. 300 + 523

5. 946 − 441

6. 530 − 157

7. 600 + 75

8. 116 + 850

9. 155 + 109

10. 715 + 248

11. 922 – 39

12. 504 – 208

13. 300 + 145

14. 109 + 643

15. 200 – 188

16. 480 – 252

17. Make Sense and Persevere At a baseball game, the Gordon family bought 4 ham sandwiches and 4 drinks. How much did they pay for the food and drinks?

18. Some seniors signed up for dance classes for the fall. Then 117 stopped taking classes. One hundred eighty-nine seniors continued taking classes. How many seniors started taking classes in the fall?

19. Mrs. Morris drove 116 more miles on Tuesday than on Monday. On Monday, she drove 235 miles. How many miles did she drive on Tuesday?

20. Higher Order Thinking Party Palace receives an order for 505 party favors. It packages 218 favors on Monday and 180 favors on Tuesday. How many more party favors does it still need to package? Show two different ways to solve the problem.

21. enVision® STEM A scientist was observing a group of wildebeests over two years. One year the herd consisted of 200 animals. In the next year there were 155 wildebeests. How many more animals were in the herd during the first year?

Assessment Practice

22. Use a place-value strategy to find the value of the unknown in 417 – ? = 312.

A. 105

B. 115

C. 125

D. 225

23. Use the relationship between addition and subtraction to find the value of the unknown in ? + 635 = 902.

A. 257

B. 267

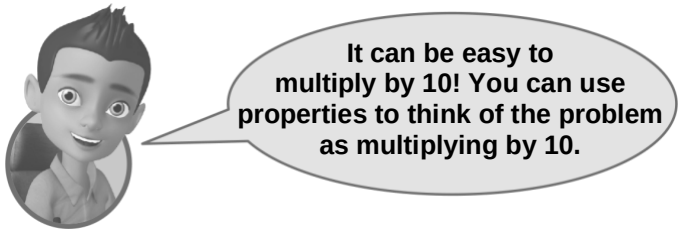
C. 337

D. 367

Additional Practice 10-3
Use Properties to Multiply

Another Look!
Find 4 × 70.

Use equivalent expressions to solve a simpler problem.



You can group factors.

4 × 70 = 4 × (7 × 10)

4 × 70 = (4 × 7) × 10

4 × 70 = 28 × 10 = 280

So, 4 × 70 = 280.

You can decompose a factor.

4 × 70 = (2 + 2) × 70

4 × 70 = (2 × 70) + (2 × 70)

4 × 70 = 140 + 140 = 280

So, 4 × 70 = 280.

In **1–6**, show how to find each product using properties of multiplication.

1. 8 × 40 = 8 × (___ × 10)
8 × 40 = (8 × ___) × 10
8 × 40 = ___ × 10 = ___

2. 2 × 90 = ___ × (___ × 10)
2 × 90 = (___ × ___) × 10
2 × 90 = (___) × 10 = ___

3. 6 × 20

4. 4 × 80

5. 7 × 70

6. 8 × 60

7. 8 × 50

8. 3 × 40

9. **Use Structure** A warehouse has 9 crates. Each crate has 20 boxes of cereal. How many boxes of cereal does the warehouse have? Explain how to use properties to solve the problem.

10. Hank rents 9 cases of plates. He has 250 guests attending the banquet. There are 30 plates in each case. Did Hank rent enough plates? Explain.

11. $32 \div 4 =$ ___
List two other facts that belong to the same fact family.

12. **Algebra** Kelsey writes the equation $6 \times ? = 180$. What value makes Kelsey's equation true?

13. Josie bikes 40 miles each month for 5 months. She multiplies 40×5. What unit should she use for the product: miles or months? Explain.

14. **Higher Order Thinking** June says that $5 \times 28 = 140$. She uses the reasoning shown below. Explain whether you agree or disagree with June's reasoning.

$5 \times 28 = 5 \times (4 \times 7)$
$= (5 \times 4) \times 7$
$= 20 \times 7 = 140$

Assessment Practice

15. Which products are equal to 490? Select all that apply.

- ☐ 4×9
- ☐ $7 \times (1 \times 10)$
- ☐ 7×70
- ☐ 4×90
- ☐ $7 \times (7 \times 10)$

16. Which products are equal to 300? Select all that apply.

- ☐ 3×10
- ☐ 6×50
- ☐ $6 \times (5 \times 10)$
- ☐ 5×60
- ☐ 30×10