9 Multiples and Problem Solving

- What kinds of books do you like to read?
- You read 10 pages of a book each day. How can place value help you find the total number of pages you read?

Chapter Learning Target:
Understand multiples.

Chapter Success Criteria:
- I can skip count.
- I can describe the pattern when multiplying.
- I can make a plan to solve a problem.
- I can solve a problem.

Name _____

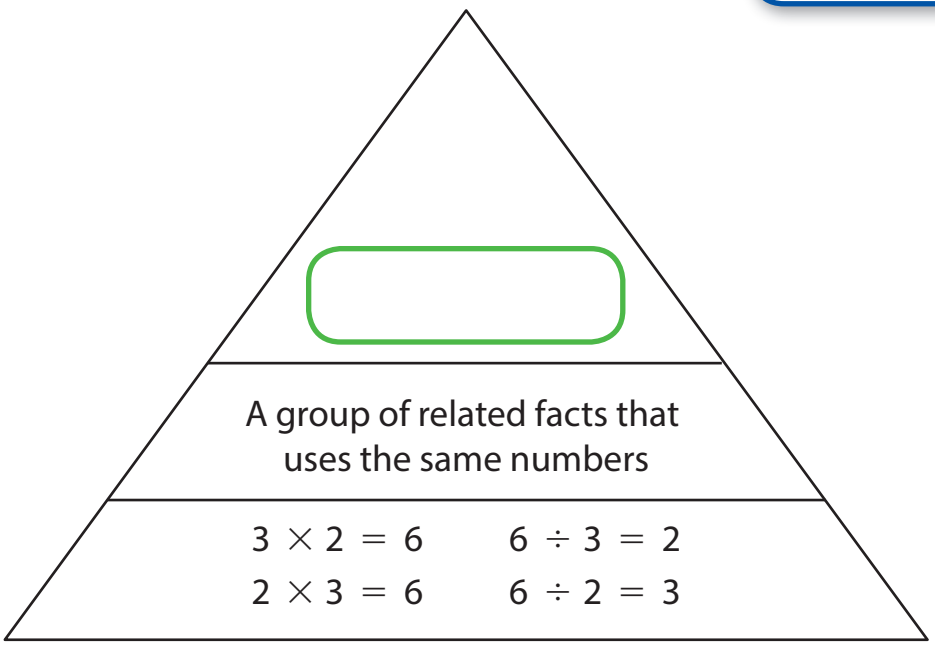
9 Vocabulary

Review Words

dividend
divisor
fact family
quotient

Organize It

Use a review word to complete the graphic organizer.



Define It

Identify the review word. Find the word in the word search.

1. The number of objects or the amount you want to divide
2. The number by which you divide
3. The answer when you divide one number by another number

V	R	E	S	K	B	D	Y
A	Z	D	Q	U	W	I	L
T	R	I	P	F	S	V	G
D	J	V	M	V	E	I	D
F	C	I	A	X	O	D	U
N	U	S	R	D	G	E	N
Q	U	O	T	I	E	N	T
E	S	R	O	V	T	D	Q

Name _____

9.1 Use Number Lines to Multiply by Multiples of 10

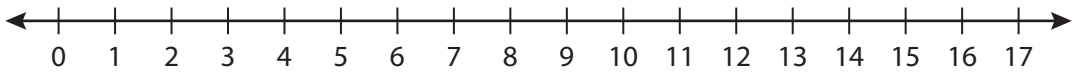
Learning Target: Use number lines to multiply by multiples of 10.

Success Criteria:

- I can use a number line to skip count by a multiple of 10.
- I can find the product of a one-digit number and a multiple of 10.

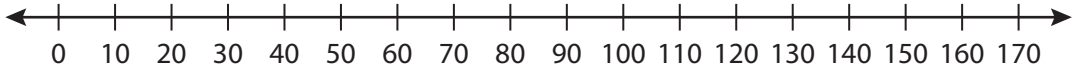
Explore and Grow

Show 5 jumps of 3. Write a multiplication equation shown by the number line.



_____ × _____ = _____

Show 5 jumps of 30. Write a multiplication equation shown by the number line.



_____ × _____ = _____

MP **Structure** Compare the models. How are they the same? How are they different?

Think and Grow: Number Lines and Multiples of 10

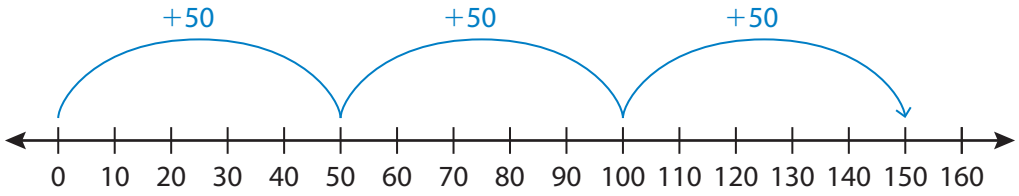
Example Find 3×50.

3×50 means 3 groups of 50.

Number of jumps: _____ Size of each jump: _____

Start at 0. Skip count by 50 three times.

Think:
50 = 5 tens

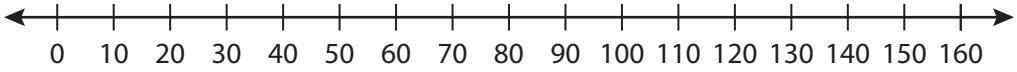


$3 \times 50 =$ _____

Show and Grow

1. Find 8×20.

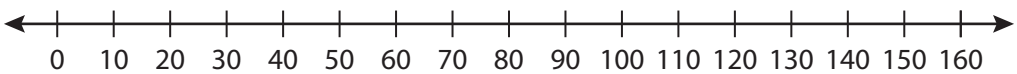
Number of jumps: _____ Size of each jump: _____



$8 \times 20 =$ _____

2. Find 4×30.

Number of jumps: _____ Size of each jump: _____



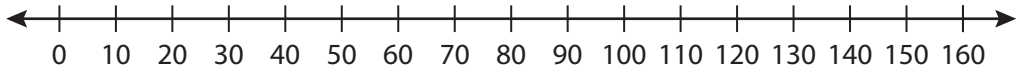
$4 \times 30 =$ _____

Name _____

Apply and Grow: Practice

3. Find 2×60.

Number of jumps: _____ Size of each jump: _____



$2 \times 60 =$ _____

4. Find 5×50.

$5 \times 50 =$ _____

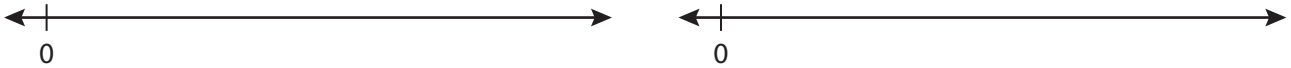
5. Find 3×70.

$3 \times 70 =$ _____

6. Find 30×6.

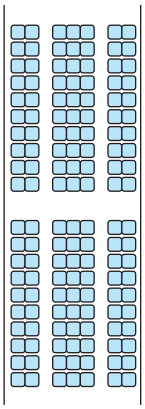
$30 \times 6 =$ _____

7. MP **Structure** Show 2×40 on one number line and 4×20 on the other. What is the same about the number lines? What is different?



Think and Grow: Modeling Real Life

A section of an airplane has 20 rows of seats. Each row has 7 seats. Can the section seat more than 150 people? Explain.



Model:

The section _____ seat more than 150 people.

Explain:

Show and Grow

8. There are 9 rows of seats in an auditorium. Each row has 30 seats. Can the auditorium seat more than 250 people? Explain.

9. A mechanic installs new tires on 20 cars and 20 pickup trucks. How many new tires does the mechanic install in all?

10. DIG DEEPER! Newton saves $5 each week for 20 weeks. How much more money does he need to buy a new bike that costs $130? If he continues to save the same amount each week, how many more weeks does he need to save to buy the bike? Explain.

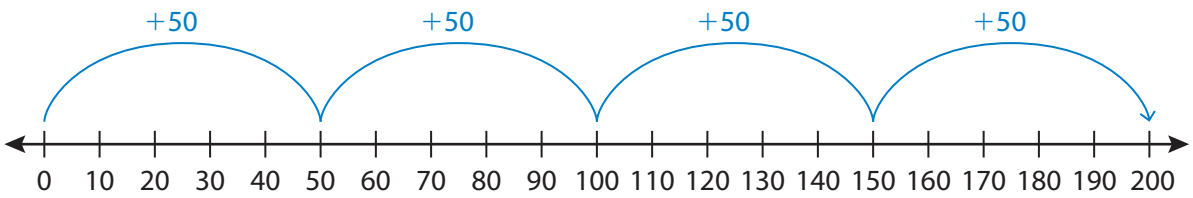
Name _____

Homework & Practice 9.1

Learning Target: Use number lines to multiply by multiples of 10.

Example Find 4×50.

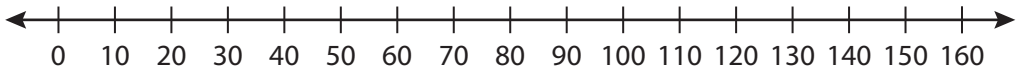
Number of jumps: 4 Size of each jump: 50



$4 \times 50 =$ 200

1. Find 3×30.

Number of jumps: _____ Size of each jump: _____



$3 \times 30 =$ _____

2. Find 7×60.

$7 \times 60 =$ _____

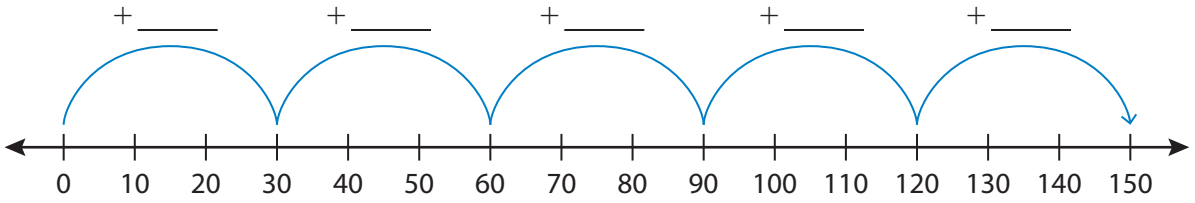
3. Find 4×40.

$4 \times 40 =$ _____

4. Find 80×3.

$80 \times 3 =$ _____

5. **Structure** Complete the number line. Then write the multiplication equation shown on the number line.



_____ $\times$ _____ $=$ _____

6. **Modeling Real Life** A gymnasium has 9 rows of seats. Each row has 50 seats. Can the gymnasium seat more than 500 people? Explain.

7. **Modeling Real Life** Ten adults and 20 children fill their bike tires at a public pump. How many tires are filled in all?

Review & Refresh

8. There are 35 counters. The counters are in 7 equal rows. How many counters are in each row?

7 rows of _____

$35 \div 7 =$ _____

9. You have 32 counters. You arrange them with 8 counters in each row. How many rows of counters do you make?

_____ rows of 8

$32 \div 8 =$ _____

Name _____

9.2 Use Place Value to Multiply by Multiples of 10

Learning Target: Use place value to multiply by multiples of 10.

Success Criteria:

- I can use a model to multiply by a multiple of 10.
- I can find the product of a one-digit number and a multiple of 10.
- I can describe a pattern when multiplying by multiples of 10.

Explore and Grow

Use models to find each product. Draw your models.

$4 \times 6 =$ _____

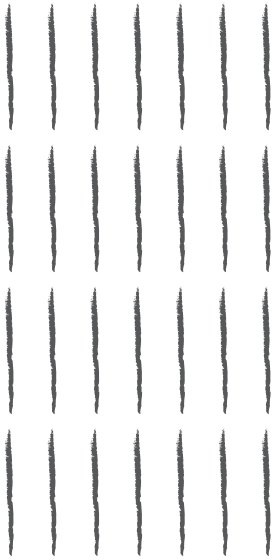
$4 \times 60 =$ _____

MP **Structure** Compare the models. How are they the same? How are they different?

Think and Grow: Place Value and Multiples of 10

Example Find 4×70.

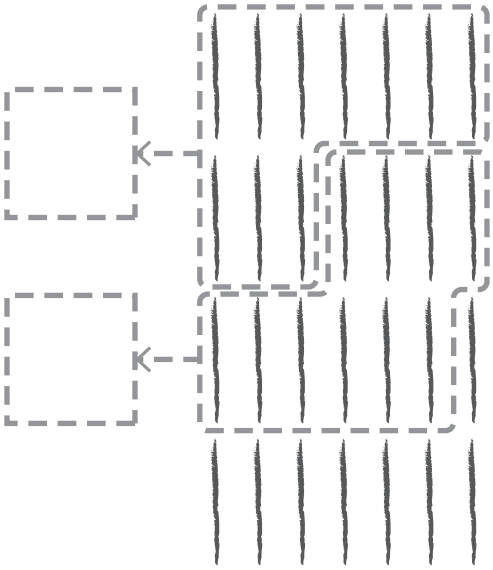
Step 1: Make a quick sketch to model the product. Think: 4 groups of 70, or 7 tens.



$4 \times 70 = 4 \times$ _____ tens

$4 \times 70 =$ _____ tens

Step 2: Regroup _____ tens.



There are _____ hundreds and _____ tens.

So, $4 \times 70 =$ _____.

Show and Grow

Make a quick sketch to find the product.

1. $3 \times 80 =$ _____

2. $5 \times 40 =$ _____

Name _____

Apply and Grow: Practice

Use place value to find the product.

3. $3 \times 90 = 3 \times$ _____ tens

$3 \times 90 =$ _____ tens

$3 \times 90 =$ _____

4. $6 \times 60 = 6 \times$ _____ tens

$6 \times 60 =$ _____ tens

$6 \times 60 =$ _____

5. $2 \times 70 = 2 \times$ _____ tens

$2 \times 70 =$ _____ tens

$2 \times 70 =$ _____

6. $9 \times 20 = 9 \times$ _____ tens

$9 \times 20 =$ _____ tens

$9 \times 20 =$ _____

Find the product.

7. $3 \times 30 =$ _____

8. $6 \times 80 =$ _____

9. $4 \times 40 =$ _____

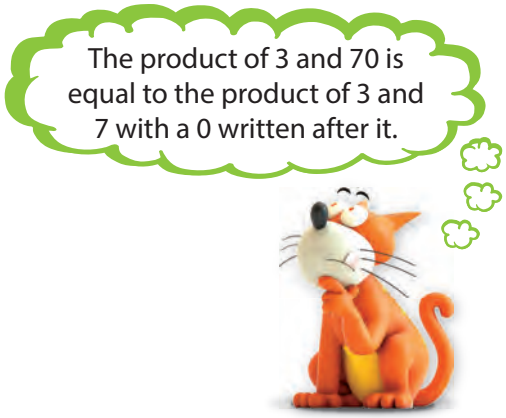
10. $7 \times 50 =$ _____

11. $8 \times 70 =$ _____

12. $5 \times 90 =$ _____

13. MP **Reasoning** Explain why the product of 6 and 30 has 1 zero and the product of 4 and 50 has 2 zeros.

14. **YOU BE THE TEACHER** Is Descartes correct? Explain.



Think and Grow: Modeling Real Life

Newton saves $30 each month for 6 months. Does he have enough money to buy the drone? Explain.

Newton _____ have enough money to buy the drone.

Explain:

Show and Grow

15. Descartes saves $20 each month for 8 months. Does he have enough money to buy the remote control jeep? Explain.

16. You practice playing the guitar for 40 minutes every day. How many minutes do you practice in one week?

17. A box of snacks has 25 bags of pretzels and 25 bags of peanuts. How many bags are in 9 boxes?

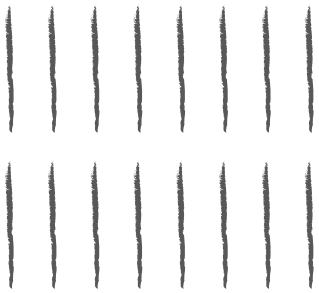
Name _____

Homework & Practice 9.2

Learning Target: Use place value to multiply by multiples of 10.

Example Find 2×80.

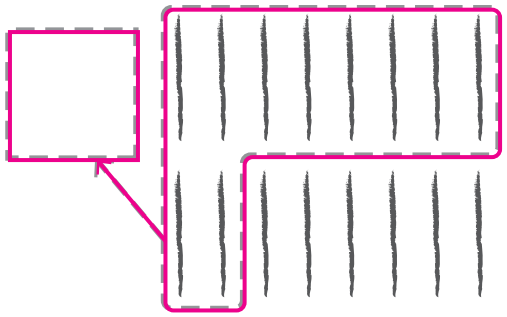
Step 1: Make a quick sketch to model the product. Think: 2 groups of 80, or 8 tens.



$2 \times 80 = 2 \times$ 8 tens

$2 \times 80 =$ 16 tens

Step 2: Regroup 10 tens.



There is 1 hundred and 6 tens.

So, $2 \times 80 =$ 160.

Make a quick sketch to find the product.

1. $5 \times 70 =$ _____

2. $3 \times 60 =$ _____

Use place value to find the product.

3. $8 \times 50 = 8 \times$ _____ tens

$8 \times 50 =$ _____ tens

$8 \times 50 =$ _____

4. $7 \times 60 = 7 \times$ _____ tens

$7 \times 60 =$ _____ tens

$7 \times 60 =$ _____

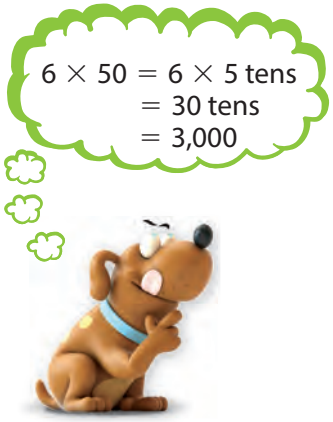
Find the product.

5. $6 \times 90 =$ _____

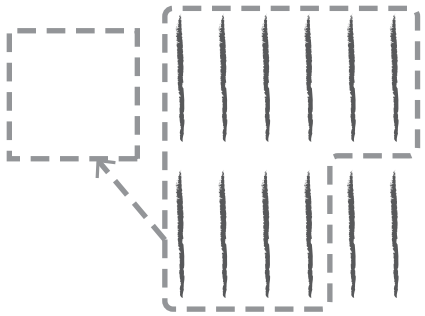
6. $8 \times 30 =$ _____

7. $5 \times 40 =$ _____

8. **YOU BE THE TEACHER** Is Newton correct? Explain.



9. **Structure** Write an equation for the quick sketch.



_____ × _____ = _____

10. **Modeling Real Life** Descartes saves $50 each month for 5 months. Does he have enough money to buy the game system? Explain.

11. **Modeling Real Life** A group of staff members packs coolers for a field trip. Each cooler has 15 peanut butter sandwiches and 15 turkey sandwiches. How many sandwiches are in 7 coolers?

Review & Refresh

12. Round 282 to the nearest ten and to the nearest hundred.

Nearest ten: _____ Nearest hundred: _____

Name _____

Use Properties to Multiply by Multiples of 10

9.3

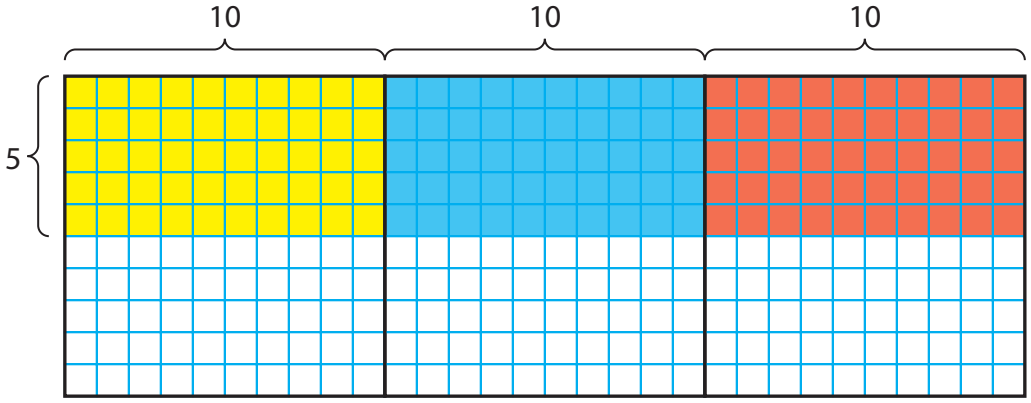
Learning Target: Use properties to multiply by multiples of 10.

Success Criteria:

- I can use the Associative Property of Multiplication to multiply by a multiple of 10.
- I can use the Distributive Property to multiply by a multiple of 10.
- I can use properties to find the product of a one-digit number and a multiple of 10.

Explore and Grow

Use the colored rectangles to find 5×30.



____ × ____ = ____ ____ × ____ = ____ ____ × ____ = ____

____ + ____ + ____ = ____

So, $5 \times 30 =$ ____.

MP **Reasoning** How does this model relate to the Distributive Property?

Think and Grow: Properties and Multiples of 10

Example Find 6×20.

One Way: Use the Associative Property of Multiplication.

Think:
$20 = 2 \times 10$

$6 \times 20 = 6 \times (\_\_\_\_ \times 10)$ Rewrite 20 as $\_\_\_\_ \times 10$.

$6 \times 20 = (6 \times \_\_\_\_) \times 10$ Associative Property of Multiplication

$6 \times 20 = \_\_\_\_ \times 10$

$6 \times 20 = \_\_\_\_$

Another Way: Use the Distributive Property.

Think:
$20 = 10 + 10$

$6 \times 20 = 6 \times (10 + \_\_\_\_)$ Rewrite 20 as $10 + \_\_\_\_$.

$6 \times 20 = (6 \times 10) + (6 \times \_\_\_\_)$ Distributive Property

$6 \times 20 = \_\_\_\_ + \_\_\_\_$

$6 \times 20 = \_\_\_\_$

Show and Grow

1. Use the Associative Property of Multiplication to find 4×60.

$4 \times 60 = 4 \times (\_\_\_\_ \times 10)$

$4 \times 60 = (4 \times \_\_\_\_) \times 10$

$4 \times 60 = \_\_\_\_ \times 10$

$4 \times 60 = \_\_\_\_$

2. Use the Distributive Property to find 9×20.

$9 \times 20 = 9 \times (10 + \_\_\_\_)$

$9 \times 20 = (9 \times 10) + (9 \times \_\_\_\_)$

$9 \times 20 = \_\_\_\_ + \_\_\_\_$

$9 \times 20 = \_\_\_\_$

Name _____

Apply and Grow: Practice

Use properties to find the product.

3. $7 \times 30 =$ _____

4. $5 \times 80 =$ _____

5. $5 \times 20 =$ _____

6. $3 \times 90 =$ _____

Find the missing factor.

7. $8 \times$ _____ $= 320$

8. _____ $\times 50 = 300$

9. _____ $\times 30 = 270$

10. MP **Number Sense** Use the Associative Property of Multiplication to show why $4 \times 20 = 8 \times 10$.

11. **Open-Ended** Write three expressions equal to 240.

_____ $\times$ _____ | _____ $\times$ _____ | _____ $\times$ _____

12. MP **Number Sense** Which equations show the Distributive Property?

$2 \times 20 = (2 \times 10) + (2 \times 10)$

$4 \times (3 \times 10) = (4 \times 3) \times 10$

$(7 \times 10) + (7 \times 10) = 7 \times 20$

Think and Grow: Modeling Real Life

There are 8 tables in a classroom. There are 5 students at each table. Each student has 10 markers. How many markers do the students have in all?

There are _____ markers at each table.

The students have _____ markers in all.

Show and Grow

13. Your teacher buys 5 boxes of pens. Each box has 6 bundles of 10 pens. How many pens does your teacher buy in all?

14. **DIG DEEPER!** Newton earns $30 each work shift. He wants to buy Descartes a cat tree. The tree costs $150. After how many work shifts can Newton buy the tree?

Name _____

Homework & Practice 9.3

Learning Target: Use properties to multiply by multiples of 10.

Example Find 8×20.

One Way: Use the Associative Property of Multiplication.

$8 \times 20 = 8 \times (\underline{2} \times 10)$ Rewrite 20 as $\underline{2} \times 10$.

$8 \times 20 = (8 \times \underline{2}) \times 10$ Associative Property of Multiplication

$8 \times 20 = \underline{16} \times 10$

$8 \times 20 = \underline{160}$

Another Way: Use the Distributive Property.

$8 \times 20 = 8 \times (10 + \underline{10})$ Rewrite 20 as $10 + \underline{10}$.

$8 \times 20 = (8 \times 10) + (8 \times \underline{10})$ Distributive Property

$8 \times 20 = \underline{80} + \underline{80}$

$8 \times 20 = \underline{160}$

1. Use the Associative Property of Multiplication to find 6×70.

$6 \times 70 = 6 \times (\_\_\_\_ \times 10)$

$6 \times 70 = (6 \times \_\_\_\_) \times 10$

$6 \times 70 = \_\_\_\_ \times 10$

$6 \times 70 = \_\_\_\_$

2. Use the Distributive Property to find 3×20.

$3 \times 20 = 3 \times (10 + \_\_\_\_)$

$3 \times 20 = (3 \times 10) + (3 \times \_\_\_\_)$

$3 \times 20 = \_\_\_\_ + \_\_\_\_$

$3 \times 20 = \_\_\_\_$

Use properties to find the product.

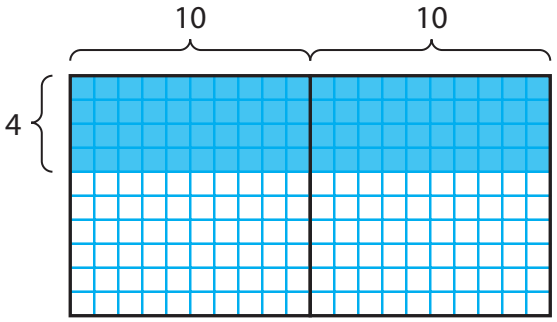
3. $9 \times 20 = \_\_\_\_$

4. $5 \times 30 = \_\_\_\_$

Find the missing factor.

5. _____ $\times$ 60 = 180 | **6.** 6 $\times$ _____ = 240 | **7.** _____ $\times$ 80 = 720

8. **YOU BE THE TEACHER** Your friend draws a model to find 4 $\times$ 20. Is your friend correct? Explain.



4 $\times$ 10 = 40 4 $\times$ 10 = 40

40 + 40 = 80

So, 4 $\times$ 20 = 80.

9. **Number Sense** How can you tell whether 7 $\times$ 40 or 8 $\times$ 70 is greater without finding the products?

10. **Modeling Real Life** There are 9 teams in a math competition. Each team has 6 students. Each student answers 10 questions. How many questions are answered in all?

11. **DIG DEEPER!** A soccer team earns $40 each week washing cars. The team wants to buy an inflatable field for $240. After how many weeks can the team buy the field?

Review & Refresh

Find the quotient.

12. $3\overline{)18}$ **13.** $4\overline{)32}$ **14.** $3\overline{)27}$ **15.** $4\overline{)16}$

Name _____

Problem Solving: Multiplication and Division

9.4

Learning Target: Use the problem-solving plan to solve two-step multiplication and division word problems.

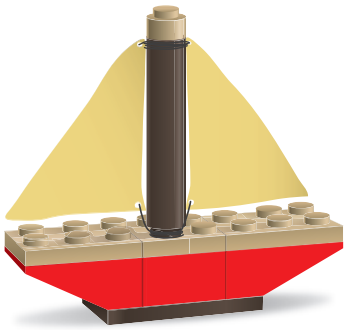
Success Criteria:

- I can understand a problem.
- I can make a plan to solve a problem using letters to represent the unknown numbers.
- I can solve a problem and check whether my answer is reasonable.

Explore and Grow

Use any strategy to solve the problem.

Descartes uses 72 blocks to build ships. He uses 9 blocks for each ship. Each ship has 2 fabric sails. How many sails does Descartes use?



Descartes uses _____ fabric sails.

MP **Structure** What equations did you use to solve? How can you write the equations using a letter to represent the number of fabric sails?

Think and Grow: Using the Problem-Solving Plan

Example A box of 8 burritos costs $9. How much does it cost a group of friends to buy 40 burritos?

Understand the Problem

What do you know?

- A box has _____ burritos.
- The box costs _____.
- A group of friends wants to buy _____ burritos.

What do you need to find?

- You need to find how much it costs to buy _____.

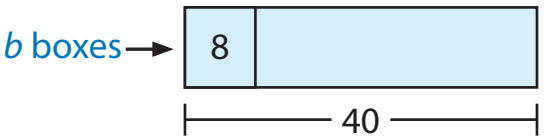
Make a Plan

How will you solve?

- Divide _____ by _____ to find how many _____ the group needs to buy.
- Then multiply the quotient by _____ to find the total cost.

Solve

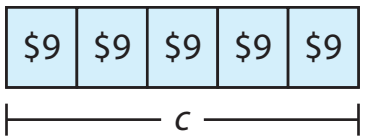
Step 1: How many boxes does the group need to buy?



b is the unknown quotient.

$b = 40 \div 8$ $b =$ ☐

Step 2: Use *b* to find the total cost.



c is the unknown product.

$c = 5 \times 9$ $c =$ ☐

It costs $_____ for 40 burritos.

Show and Grow

1. You make 9 shots in a basketball game. Each shot is worth 2 points. Your friend has the same number of points. All of her shots are worth 3 points. How many shots does your friend make?

Name _____

Apply and Grow: Practice

Write equations to solve. Use letters to represent the unknown numbers. Check whether your answer is reasonable.

2. You read 3 chapters. Each chapter has 8 pages. Your friend reads the same number of pages. All of her chapters have 6 pages. How many chapters does your friend read?

3. There are 42 players in a basketball tournament. The players are divided into teams of 7 players. The teams are divided equally among 3 basketball courts. How many teams are at each basketball court?

4. You have 2 dream catcher kits. Each kit makes 4 dream catchers. You make all of the dream catchers and sell them for $9 each. How much money do you earn?

5. A box of 4 test tubes costs $6. How much does it cost to buy 20 test tubes?

Think and Grow: Modeling Real Life

There are 4 crates of milk bottles. Each crate holds 20 bottles. You hand out an equal number of bottles to 10 tables of students. How many bottles of milk does each table of students get?

Understand the problem:

Make a plan:

Solve:

Each table of students gets _____ bottles of milk.

Show and Grow

6. Six groups of hikers have 2 cases of water to share equally. Each case has 30 bottles of water. How many bottles of water does each group get?

7. **DIG DEEPER!** Newton and Descartes decide to buy 2 pet toys that cost $20 each. Newton saves $5 each week. Descartes saves $3 each week. If they combine their money, how long does it take them to save enough money to buy the toys?

Name _____

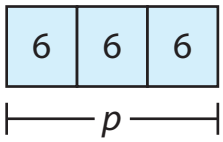
Homework & Practice 9.4

Learning Target: Use the problem-solving plan to solve two-step multiplication and division word problems.

Example There are 3 bags of pretzels with 6 pretzels in each bag. The pretzels are shared equally by 2 students. How many pretzels does each student get?

Think: What do you know? What do you need to find? How will you solve?

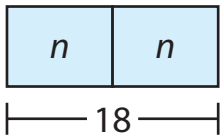
Step 1: How many pretzels are there?



The letter *p* is the unknown product.

$p = 3 \times 6$ $p =$ 18

Step 2: Use *p* to find how many pretzels each student gets.



18 pretzels are divided into 2 groups.

The letter *n* is the unknown quotient.

$n = 18 \div 2$ $n =$ 9

Each student gets 9 pretzels.

Write equations to solve. Use letters to represent the unknown numbers. Check whether your answer is reasonable.

1. Your friend saves $5 each week for 8 weeks. He spends all of the money on 4 toys that each cost the same amount. How much does each toy cost?

2. There are 3 trees. Each tree has 2 birdhouses. Each birdhouse has 4 birds. How many birds are there in all?

3. There are 54 students at a field day who are divided equally into teams of 6 students. The teams are divided equally among 3 stations. How many teams are at each station?

4. MP **Number Sense** Newton runs an equal number of miles 2 days each week. He runs 8 miles each week. One mile is equal to 4 laps around the track. Which equation can you use to find how many laps Newton runs each day?

$r = 8 \div 4$ $r = 4 \times 4$

$r = 4 \div 4$ $r = 2 \times 4$

5. **Modeling Real Life** Ten classrooms have 3 boxes of whiteboards to share equally. Each box has 30 whiteboards. How many whiteboards does each classroom get?

6. DIG DEEPER! Newton and Descartes decide to buy 2 amusement park tickets that cost $30 each. Newton saves $2 each week. Descartes saves $4 each week. If they combine their money, how long does it take them to save enough money to buy the tickets?

Review & Refresh

Round to the nearest ten to estimate the difference.

7. 58 − 27 = ☐ − ☐ = ☐

8. 763 − 415 = ☐ − ☐ = ☐

9. 686 − 24 = ☐ − ☐ = ☐

Name _____

Problem Solving: All Operations 9.5

Learning Target: Use the problem-solving plan to solve two-step word problems involving different operations.

Success Criteria:

- I can understand a problem.
- I can make a plan to solve a problem using letters to represent the unknown numbers.
- I can solve a problem using one equation.

Explore and Grow

Use any strategy to solve the problem.

You are making 6 fruit baskets. Each basket has 3 pieces of fruit in it to start. You buy 18 bananas and divide them equally among the baskets. How many pieces of fruit are in each fruit basket now?

There are _____ pieces of fruit in each fruit basket now.

MP **Structure** How can you solve this problem using one equation?

Think and Grow: One Equation with Two Operations

Example Newton buys 3 DVDs for $4 each. He pays with a $20 bill. What is his change?

You can write one equation with two operations to solve this problem. The equation is shown.

$$20 - 3 \times 4 = c$$ ← *c* is the amount of change.

When solving a problem with more than one type of operation, use the rules below.

- First, multiply or divide as you read the equation from left to right.
- Then add or subtract as you read the equation from left to right.

Step 1: Multiply from left to right.

$20 - 3 \times 4 = c$

$20 - \_\_\_\_\_ = c$

Step 2: Subtract from left to right.

$20 - \_\_\_\_\_ = c$

$\_\_\_\_\_ = c$

His change is _____ .

Show and Grow

1. There are 8 tomato plants. You pick 9 tomatoes from each plant. You give away 35 of them. Use the equation $8 \times 9 - 35 = p$ to find how many tomatoes you have left.

2. A family buys 5 tickets for a musical. Each ticket costs $9. They spend $28 at the musical on snacks. Write and solve an equation to find how much they spend in all at the musical. Use *a* to represent the total amount spent.

Name _____

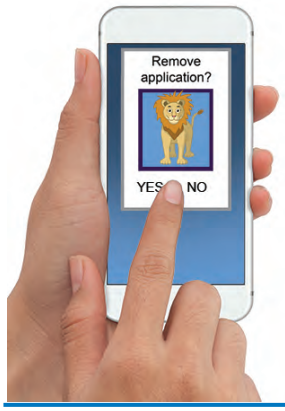
Apply and Grow: Practice

Write an equation to solve. Use a letter to represent the unknown number. Check whether your answer is reasonable.

3. Newton buys 2 movie tickets. Each ticket costs $7. Descartes spends $23 at the movie on snacks. How much money do they spend in all at the movie?

4. Newton has 28 cards. Descartes has 24 cards. Newton divides his cards into 4 equal stacks and gives Descartes one stack. How many cards does Descartes have now?

5. There are 12 apps divided into 3 equal rows on a smartphone. One row of apps is removed. How many apps are left?



6. It costs $240 each week to rent a car. Newton has a coupon that saves him $10 each day he rents the car. How much will it cost him to rent the car for a week with the coupon?

7. **YOU BE THE TEACHER** Your friend says $24 - 6 \div 2 = 9$. Is your friend correct? Explain.

Think and Grow: Modeling Real Life

Newton has $135. He saves $20 each week for 8 weeks. How much money does he have now?

Understand the problem:

Make a plan:

Solve:

Newton now has _____ .

Show and Grow

8. Your teacher buys 3 packages of napkins for a class party. Each package has 50 napkins. The class uses 79 napkins. How many napkins are left?

9. There are 60 seconds in one minute. It takes you 2 minutes and 16 seconds to run from your home to your friend's home. How many seconds does it take you?

10. A store is selling comic books for $5 each. The store sells 33 superhero comic books and 57 science-fiction comic books. How much money does the store earn?

Name _____

Homework & Practice 9.5

Learning Target: Use the problem-solving plan to solve two-step word problems involving different operations.

Example Newton has 36 stickers. He divides the stickers into 9 equal groups and gives Descartes one group. How many stickers does Newton have now?

You can write one equation with two operations to solve this problem. The equation is shown.

$36 - 36 \div 9 = n$ ← *n* is how many stickers Newton has now.

When solving a problem with more than one type of operation, use the rules below.

- First, multiply or divide as you read the equation from left to right.
- Then add or subtract as you read the equation from left to right.

Step 1: Divide from left to right.

$36 - 36 \div 9 = n$

$36 - \underline{4} = n$

Step 2: Subtract from left to right.

$36 - \underline{4} = n$

$\underline{32} = n$

Newton has 32 stickers now.

1. There are 20 math problems divided into 4 equal columns on a worksheet. Your teacher has you cross out one column of problems. Use the equation $20 - 20 \div 4 = p$ to find how many problems are left.

2. Newton has 42 blocks. Descartes has 48 blocks. Newton divides his blocks into 6 equal groups and gives Descartes one group. How many blocks does Descartes have now? Use *d* to represent how many blocks Descartes has now.

3. There are 6 palm trees. An islander gathers 8 coconuts from each tree. She gives away 19 of them. How many coconuts does she have now? Write an equation to solve. Use a letter to represent the unknown number. Check whether your answer is reasonable.

4. DIG DEEPER! Find the number that makes $5 \times \_\_\_\_ - 15 = 5$ true. Explain.

5. MP **Number Sense** Which equations are true?

$3 + 5 \times 2 \stackrel{?}{=} 13$ $\quad 20 - 10 \times 2 \stackrel{?}{=} 20$

$36 \div 6 + 3 \stackrel{?}{=} 4$ $\quad 26 - 8 \div 2 \stackrel{?}{=} 22$

6. **Modeling Real Life** A school nurse orders 7 packages of bandages. Each package has 20 bandages. The nurse uses 53 bandages. How many bandages are left?

7. **Modeling Real Life** There are 60 seconds in one minute. You record a video that is 3 minutes and 48 seconds long. How many seconds long is the video?

Review & Refresh

Estimate. Then find the sum. Check whether your answer is reasonable.

8. Estimate: _____

$$\begin{array}{r} 23 \\ 358 \\ +\ 172 \\ \hline \end{array}$$

9. Estimate: _____

$$\begin{array}{r} 202 \\ 64 \\ +\ 545 \\ \hline \end{array}$$

10. Estimate: _____

$$\begin{array}{r} 21 \\ 15 \\ +\ 837 \\ \hline \end{array}$$

Name _____

Performance Task 9

1. a. You read 120 minutes from Monday through Thursday this week. How many minutes do you read on Thursday? Complete the picture graph for Thursday.

Minutes Read	
Monday	★★★
Tuesday	★★★★
Wednesday	★★
Thursday	
Friday	

Each ★ = 10 minutes.

b. Last week you read 30 minutes each day for 5 days. Your goal this week is to read the same number of minutes as last week. How many minutes do you need to read on Friday to reach your goal? Complete the picture graph for Friday.

2. Write equations to solve. Use letters to represent the unknown numbers. Check whether your answer is reasonable.

a. There are 60 minutes in one hour. Your friend reads 2 hours and 38 minutes during the week. How many minutes does your friend read in all?

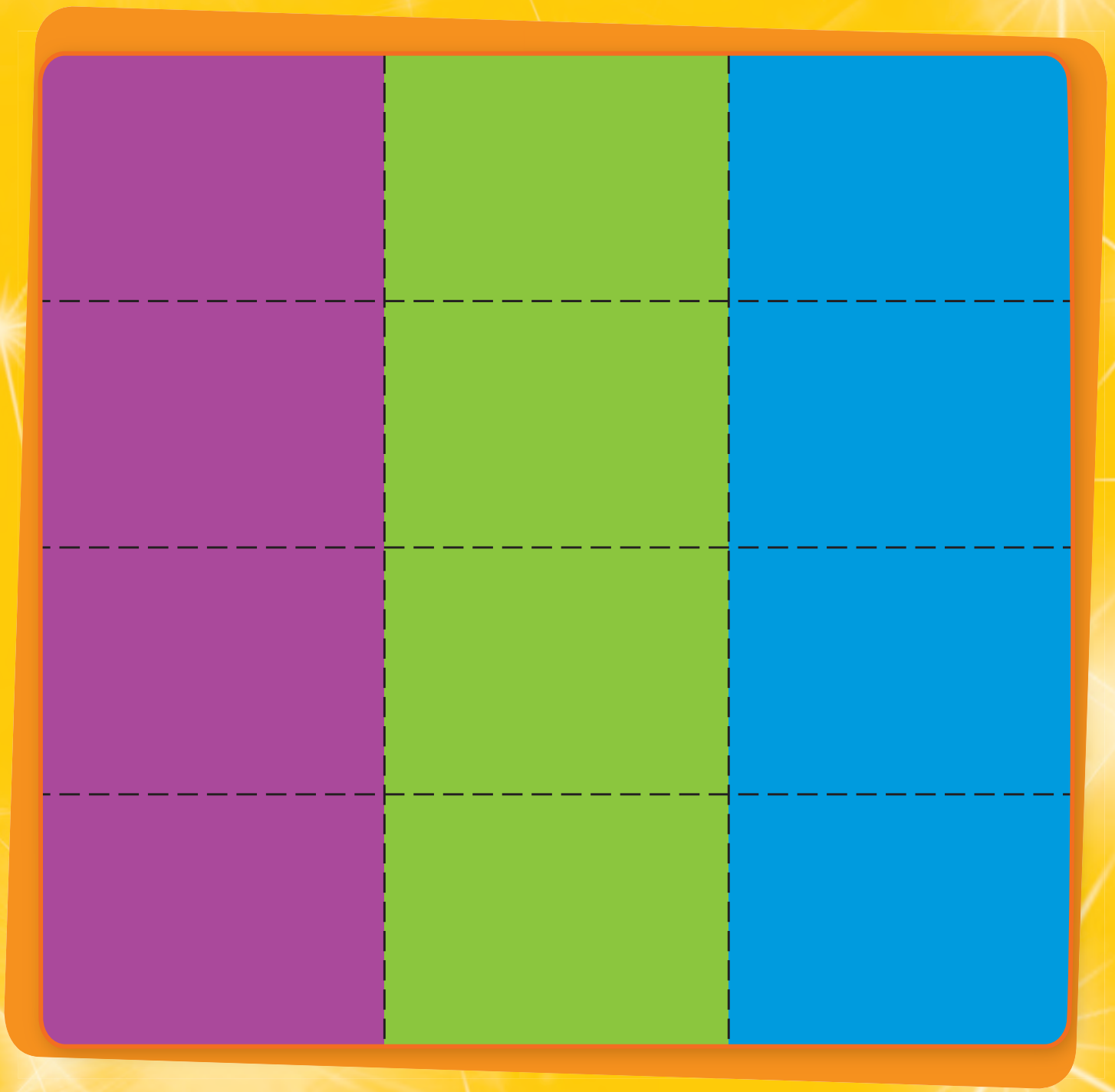
b. Your cousin earns 2 stars on her graph each day for 5 days. How many minutes does your cousin read in all?

3. Use the information above. Order the numbers of minutes you, your friend, and your cousin read from least to greatest. The person with the least number of minutes wants to read the same amount as the person with the greatest number of minutes. How many more minutes does the person need to read?

Multiplication Flip and Find

Directions:

1. Place the Multiplication Flip and Find Cards facedown in the boxes.
2. Players take turns flipping two cards.
3. If your cards show a matching expression and product, then keep the cards. If your cards do not show a matching expression and product, then flip the cards back over.
4. Play until all matches are made.
5. The player with the most matches wins!



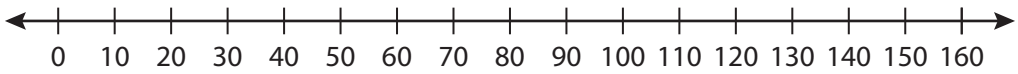
Name _____

Chapter Practice 9

9.1 Use Number Lines to Multiply by Multiples of 10

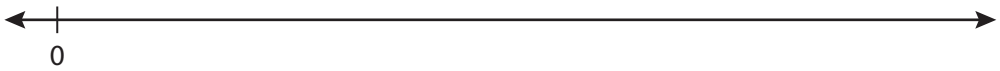
1. Find 8×20.

Number of jumps: _____ Size of each jump: _____



$8 \times 20 =$ _____

2. Find 7×40.

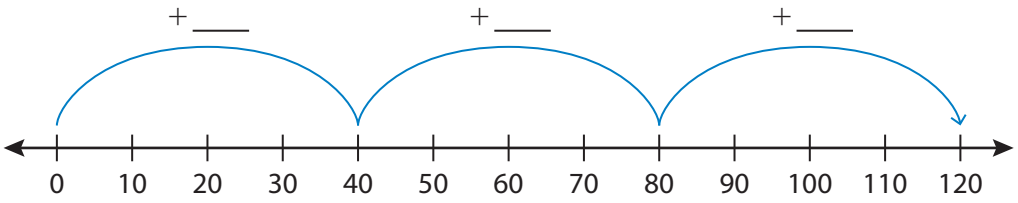


$7 \times 40 =$ _____

3. Find 30×9.

$30 \times 9 =$ _____

4. MP **Structure** Complete the number line. Then write the multiplication equation for the number line.



_____ × _____ = _____

9.2 Use Place Value to Multiply by Multiples of 10

Make a quick sketch to find the product.

5. $6 \times 40 =$ _____

6. $5 \times 20 =$ _____

Use place value to find the product.

7. $4 \times 50 = 4 \times$ _____ tens

$4 \times 50 =$ _____ tens

$4 \times 50 =$ _____

8. $3 \times 60 = 3 \times$ _____ tens

$3 \times 60 =$ _____ tens

$3 \times 60 =$ _____

9. $7 \times 70 = 7 \times$ _____ tens

$7 \times 70 =$ _____ tens

$7 \times 70 =$ _____

10. $9 \times 80 = 9 \times$ _____ tens

$9 \times 80 =$ _____ tens

$9 \times 80 =$ _____

Find the product.

11. $2 \times 60 =$ _____

12. $8 \times 40 =$ _____

13. $5 \times 90 =$ _____

14. **Modeling Real Life** You practice ballet for 30 minutes every day. How many minutes do you practice in one week?

9.3 Use Properties to Multiply by Multiples of 10

15. Use the Associative Property of Multiplication to find 4×90.

$4 \times 90 = 4 \times (\_\_\_\_ \times 10)$

$4 \times 90 = (4 \times \_\_\_\_) \times 10$

$4 \times 90 = \_\_\_\_ \times 10$

$4 \times 90 = \_\_\_\_$

16. Use the Distributive Property to find 8×20.

$8 \times 20 = 8 \times (10 + \_\_\_\_)$

$8 \times 20 = (8 \times 10) + (8 \times \_\_\_\_)$

$8 \times 20 = \_\_\_\_ + \_\_\_\_$

$8 \times 20 = \_\_\_\_$

Use properties to find the product.

17. $7 \times 20 = \_\_\_\_$

18. $5 \times 70 = \_\_\_\_$

Find the missing factor.

19. $\_\_\_\_ \times 20 = 180$

20. $7 \times \_\_\_\_ = 350$

21. $\_\_\_\_ \times 80 = 240$

22. **Open-Ended** Write three expressions equal to 120.

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

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

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

9.4 Problem Solving: Multiplication and Division

Write equations to solve. Use letters to represent the unknown numbers. Check whether your answer is reasonable.

23. There are 2 bookcases. Each bookcase has 3 shelves of 5 books. How many books are there in all?

24. Four veterinarians share 2 boxes of ear wipes. Each box has 20 packs of ear wipes. How many packs of ear wipes does each veterinarian get?

9.5 Problem Solving: All Operations

Write an equation to solve. Use a letter to represent the unknown number. Check whether your answer is reasonable.

25. Newton has 30 beads. Descartes has 22 beads. Newton divides his beads into 3 equal groups and gives Descartes one group. How many beads does Descartes have now?

26. It costs $166 to rent a bounce house for 7 hours. Descartes has a coupon that saves him $5 each hour he rents the bounce house. How much will it cost him to rent the bounce house for 7 hours with the coupon?