

# Instruction Coach<sup>TM</sup> Mathematics












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# Chapter 1

## Operations and Algebraic Thinking

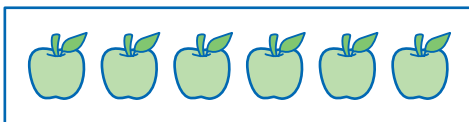
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# Interpreting Multiplication Equations

**EXAMPLE A** What number is 4 times as many as 6?

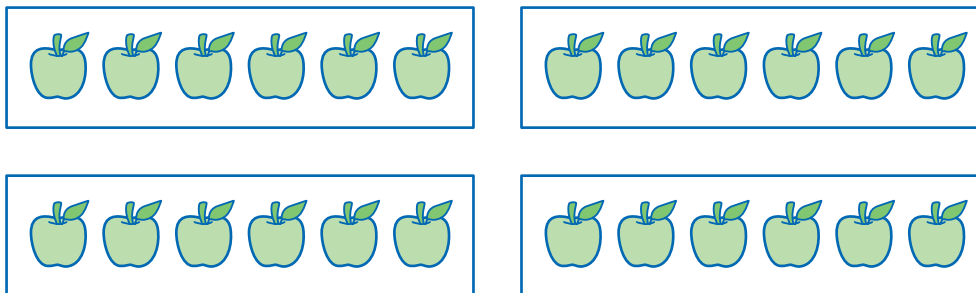
1

Show a group of 6.



2

To find 4 times as many as 6, show 4 groups of 6.



3

Use **multiplication** to find 4 times as many as 6.

Write the **equation**.

The first **factor** is the number of groups.

The second factor is the number in each group.

Multiply to find the **product**.

$$4 \times 6 = 24$$

► 24 is 4 times as many as 6.

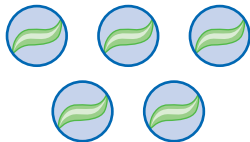
MODEL

Draw a model to show a number that is 2 times as many as 3. What is the number?

**EXAMPLE B** Lauren has 5 marbles. Amy has 4 times as many marbles as Lauren. How many marbles does Amy have?

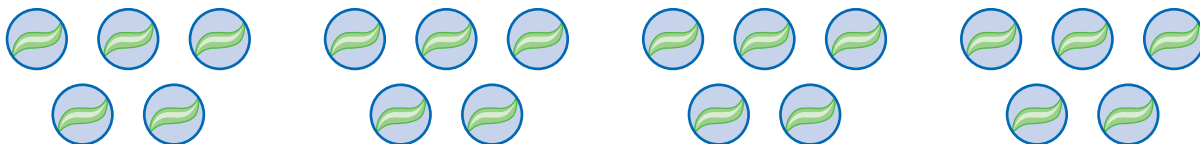
1

Show 5 marbles.



2

To find 4 times as many as 5, show 4 groups of 5.



3

Use multiplication to find 4 times as many as 5.

Write the equation.

The first factor is the number of groups.

The second factor is the number in each group.

Multiply to find the product.

$$4 \times 5 = 20$$

20 is 4 times as much as 5.

► Amy has 20 marbles.

**TRY**

Describe a comparison situation that could be modeled by  $3 \times 5 = 15$ .

# Practice

Use the diagram to write the number of groups and the number in each group.

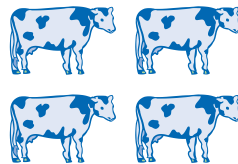
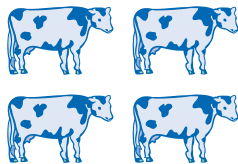
1. 6 times as many as 10



**HINT** The number of rows is the number of groups.

\_\_\_\_\_ groups with \_\_\_\_\_ in each group

2. 2 times as many as 4



\_\_\_\_\_ groups with \_\_\_\_\_ in each group

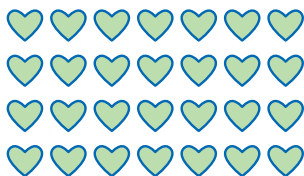
3. 6 times as many as 3



\_\_\_\_\_ groups with \_\_\_\_\_ in each group

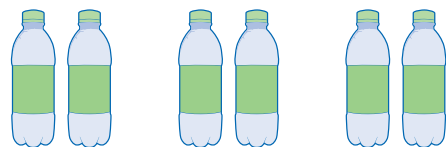
Use the diagram to write the equation.

4. 4 times as many as 7



\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

5. 3 times as many as 2



\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

**REMEMBER** Multiply the number of groups by the number in each group.

**Complete each sentence.**

- 6.  $20 = 5 \times 4$  means that 20 is \_\_\_\_\_ times as many as 4.
- 7.  $48 = 6 \times 8$  means that 48 is \_\_\_\_\_ times as many as 8.
- 8.  $27 = 3 \times 9$  means that 27 is 3 times as many as \_\_\_\_\_.
- 9.  $70 = 10 \times 7$  means that 70 is 7 times as much as \_\_\_\_\_.

**Choose the best answer.**

- 10. Which equation means 54 is 9 times as many as 6, and 6 times as many as 9?
  - A.  $54 = 6 + 9$
  - B.  $54 = 6 \times 9$
  - C.  $54 = 9 - 6$
  - D.  $54 = 9 \div 6$
- 11. Which equation means 40 is 5 times as many as 8, and 8 times as many as 5?
  - A.  $40 = 5 \times 8$
  - B.  $40 = 8 - 5$
  - C.  $40 = 8 \div 5$
  - D.  $40 = 5 + 8$

**Solve.**

- 12. A T-shirt costs \$4. A sweater costs 4 times as much as the T-shirt. How much does the sweater cost?  
\_\_\_\_\_
- 13. A tulip is 5 inches tall. A sunflower is 7 times as tall as the tulip. How tall is the sunflower?  
\_\_\_\_\_
- 14. **COMPARE** How does 6 times as many as 5 compare with 5 times as many as 6?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 15. **EXPLAIN** How would you find the price of a pen that is twice the price of a pencil that costs 11¢?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_