



Name \_\_\_\_\_

## 6.1 Relate Addition and Multiplication

### ALGEBRA

Draw a quick picture to show equal groups. Then write related addition and multiplication sentences.

1. 3 groups of 4

$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

2. 4 groups of 2

$$\underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Use the table for 3–4.

3. Kaymer buys 2 boxes of crayons. Write a multiplication sentence to find how many crayons Kaymer buys.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

4. Mya buys 4 boxes of pencils. Write a multiplication sentence to find how many pencils Mya buys.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

**Boxes of School Supplies**

Box	Number in Each
Crayons	6
Markers	4
Pencils	3

### Problem Solving



5. Zach buys 4 boxes of pens. Each pack has 4 pens. Write a multiplication sentence to show how many pens Zach buys.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

6. Ada has 3 vases. She puts 5 flowers in each vase. Write a multiplication sentence to show how many flowers Ada puts in the vases.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

7. Jada makes 3 trays of muffins. Each tray holds 6 muffins. Which equation shows how many muffins Jada makes?
- (A)  $3 \times 6 = 18$   
(B)  $3 + 6 = 9$   
(C)  $6 \times 3 = 9$   
(D)  $6 \times 3 = 12$
8. Robinson puts 5 books on 2 shelves. Which equation shows how many books Robinson puts on the shelves?
- (A)  $2 + 5 = 10$   
(B)  $5 + 2 = 7$   
(C)  $5 \times 2 = 10$   
(D)  $2 \times 5 = 7$
9. Midori puts 5 flowers in each of 3 vases. She says the number of flowers is equal to  $5 + 5 + 5$ . Which is another way to find the number of flowers?
- (A)  $3 \times 3$   
(B)  $3 \times 5$   
(C)  $5 + 5$   
(D)  $3 + 5$
10. Pete has 5 boxes. Each box has 4 toy cars in it. Pete says the number of cars is equal to  $4 + 4 + 4 + 4 + 4$ . Which is another way to find the number of cars?
- (A)  $5 + 4$   
(B)  $4 \times 4$   
(C)  $5 \times 5$   
(D)  $5 \times 4$
11. **Multi-Step** Mrs. Tomar buys 2 packs of vanilla yogurt and 3 packs of strawberry yogurt. Each pack has 4 yogurts. How many yogurts does Mrs. Tomar buy?
- (A) 20  
(B) 9  
(C) 12  
(D) 24
12. **Multi-Step** Murray buys 3 packs of red peppers and 4 packs of green peppers. Each pack has 4 peppers. How many peppers does Murray buy?
- (A) 16  
(B) 12  
(C) 28  
(D) 48

# Homework and Practice



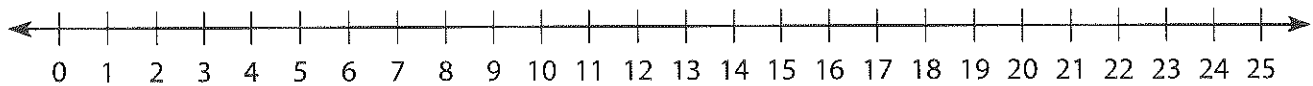
TEKS Number and Operations—3.4.E,  
3.4.K  
MATHEMATICAL PROCESSES 3.1.E, 3.1.G

Name \_\_\_\_\_

## 6.2 Skip Count on a Number Line

Draw jumps on the number line to show equal groups.  
Find the product.

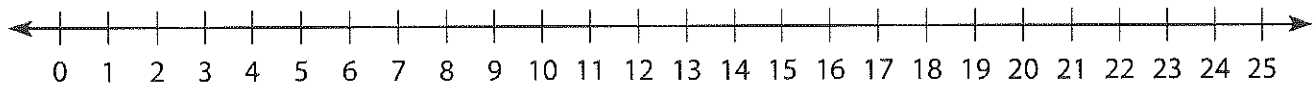
1. 4 groups of 6



$$4 \times 6 = \underline{\hspace{2cm}}$$

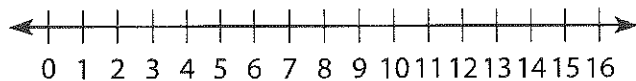
Write the multiplication sentence the number line shows.

- 2.

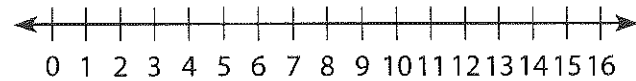


$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$$

3. Write two multiplication sentences that have a product of 16.  
Draw jumps on the number line to show the multiplication.



$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$$

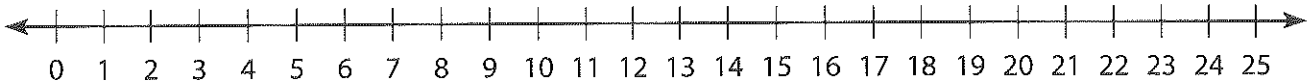


$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$$

### Problem Solving

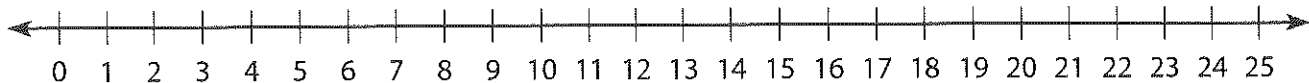
4. Hannah, Steven, and Nicole each have 9 books. How many books do they have in all?
5. Kyle has 6 crayons in 3 boxes. If he adds another crayon to each box, how many crayons will Kyle have?

6. In Mr. Gupta's classroom, there are 4 rows of desks. Each row has 6 desks. How many desks are in Mr. Gupta's classroom?



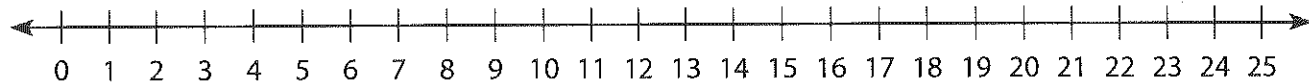
- (A) 10
- (B) 18
- (C) 24
- (D) 21

7. Matt wants to make 5 puppets. He needs 3 buttons for each puppet. Which number sentence can Matt use to find the number of buttons he needs?



- (A)  $5 + 3 = 8$
- (B)  $5 \times 5 = 25$
- (C)  $3 \times 3 = 9$
- (D)  $5 \times 3 = 15$

8. Ichiro builds 3 birdhouses. He uses 6 pieces of wood for each birdhouse. How many pieces of wood does Ichiro use?



- (A) 9
- (B) 18
- (C) 15
- (D) 24

9. **Multi-Step** A band marches in rows of 5. Each row has 6 people. There are 4 people who carry flags. How many people are in the marching band?

- (A) 15
- (B) 24
- (C) 34
- (D) 30

10. **Multi-Step** Carla puts 8 pictures on each page of a photo album. She fills 3 pages. She has 5 pictures left. How many pictures does she have?

- (A) 24
- (B) 15
- (C) 15
- (D) 29

# Homework and Practice



Number and Operations—3.4.E, 3.4.K  
Algebraic Reasoning—3.5.B Also 3.4.D  
MATHEMATICAL PROCESSES 3.1.A, 3.1.B

Name \_\_\_\_\_

## 6.3 PROBLEM SOLVING • Model Multiplication

1. Dale has 3 baskets. He puts 9 apples in each basket. How many apples does Dale have?
2. Hans has 6 boxes of crayons. Each box has 5 crayons. How many crayons does Hans have?

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\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_ apples

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\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_ crayons

3. In art class, there are 7 tables with 4 students at each table. How many students are in art class?
4. In gym class there are 6 teams with 4 students on each team. How many students are in gym class?

### Problem Solving



5. Nine students in Mr. Dobb's class work on an art project. Six students paint a picture. The rest make 3 puppets each. How many puppets are made?  
What do you need to find? Write a number sentence to solve.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Ten students in Mrs. Porth's class bring muffins to the bake sale. Six students bring bran muffins. The rest bring 6 blueberry muffins each. How many blueberry muffins do the students bring?  
What do you need to find? Write a number sentence to solve.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Ms. Cabrera has 4 rows of tomato plants in her garden. Each row has 7 plants. How many tomato plants does Ms. Cabrera have?
- (A) 16  
(B) 21  
(C) 28  
(D) 11
8. Mr. Myers has 5 packs of markers. Each pack has 5 markers. How many markers does Mr. Myers have?
- (A) 10  
(B) 25  
(C) 55  
(D) 20
9. At the farm, there are 3 stables. There are 8 horses in each stable. How many horses are at the farm?
- (A) 38  
(B) 11  
(C) 24  
(D) 27
10. Alyssa has 4 boxes. In each box there are 8 shells. How many shells does Alyssa have?
- (A) 32  
(B) 28  
(C) 12  
(D) 48
11. **Multi-Step** Alex has 2 bunches of flowers. There are 9 flowers in each bunch. Five of the flowers are daises and the rest are tulips. How many flowers are tulips?
- (A) 18  
(B) 16  
(C) 45  
(D) 13
12. **Multi-Step** In a garden there are 3 rows of plants. There are 5 plants in each row. Six of the plants are pumpkin plants and the rest are corn. How many corn plants are in the garden?
- (A) 15  
(B) 35  
(C) 9  
(D) 11

# Homework and Practice

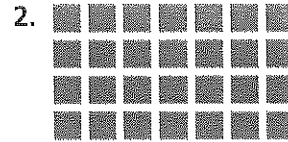
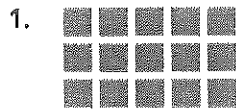


TEKS Number and Operations—3.4.D, 3.4.E  
Algebraic Reasoning—3.5.B Also 3.4.K  
MATHEMATICAL PROCESSES 3.1.C, 3.1.D

Name \_\_\_\_\_

## 6.4 Model with Arrays

Write a multiplication sentence for the array.



Use the table to solve 3–5.

3. Draw an array and write a multiplication sentence to show how many science books are on Anna's bookshelves.

Anna's Bookshelves	
Kind of Book	Number of Rows
Science	3 rows of 4
Art	2 rows of 8
Reading	4 rows of 5

4. Write a number sentence to show how many reading books are on Anna's bookshelves.
5. Describe three different arrays that Anna can make to show how many art books she has.

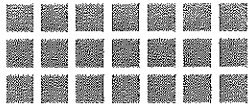
### Problem Solving



6. Sasha makes an array of tiles. She has 3 rows of 9 tiles. Write a multiplication sentence to show Sasha's array.
7. Dexter makes an array of tiles. He has 5 rows of 6 tiles. Write a multiplication sentence to show Dexter's array.

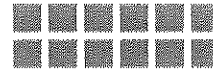


8. Ryan makes this array. Which equation does Ryan's array show?



- (A)  $3 \times 7 = 21$
- (B)  $3 + 7 = 10$
- (C)  $3 \times 6 = 18$
- (D)  $3 \times 7 = 20$

9. Ahmad makes this array. Which equation does Ahmad's array show?



- (A)  $2 + 6 = 8$
- (B)  $6 + 2 = 8$
- (C)  $2 \times 6 = 12$
- (D)  $2 \times 6 = 26$

10. Becky has 24 stamps. Which describes one array Becky can make using all of the stamps?

- (A) 3 rows of 6
- (B) 2 rows of 9
- (C) 4 rows of 6
- (D) 5 rows of 3

11. Keesha makes an array of 5 rows of 7 stickers. How many stickers does Keesha have?

- (A) 28
- (B) 12
- (C) 57
- (D) 35

12. **Multi-Step** DeShawn makes an array using 3 rows of 5 tiles. How many tiles does Deshawn have if he adds 2 more rows to the array?

- (A) 15
- (B) 9
- (C) 20
- (D) 25

13. **Multi-Step** Ming makes an array using 2 rows of 7 tiles. She adds 3 more rows to the array. Which multiplication sentence does Ming's array show?

- (A)  $2 \times 7 = 14$
- (B)  $3 \times 7 = 21$
- (C)  $5 \times 7 = 35$
- (D)  $9 \times 3 = 27$





Name \_\_\_\_\_

## 6.5

ALGEBRA

## Commutative Property of Multiplication

Write a multiplication sentence for each model. Then use the Commutative Property of Multiplication to write a related multiplication sentence.

1.



\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

2.



\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

3. Josh made 14 potholders. He put an equal number of potholders in each of 2 boxes. Write two related multiplication sentences to show how many potholders Josh made.

\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

4. Lu Chen has 21 rocks in a collection. He puts the same number of rocks in each of 3 boxes. Draw an array to show how many rocks are in each box.

### Problem Solving

5. Serena makes 5 belts. Each belt has 4 beads. Serena writes  $5 \times 4 = 20$  to show the number of beads. Write another multiplication sentence to show the number of beads.

\_\_\_\_\_

6. Dikembe has 3 packs of 10 baseball cards. He writes  $3 \times 10 = 30$  to show the number of cards. Write another multiplication sentence to show the number of baseball cards.

\_\_\_\_\_

7. There are 7 vases with 5 flowers in each vase. Gina multiplies  $7 \times 5$  to find the number of flowers. What is another way to find the number of flowers?
- (A) add  $7 + 5$   
(B) add  $5 + 7$   
(C) multiply  $5 \times 7$   
(D) multiply  $7 \times 7$
8. A photo album has 8 pages with 6 photos on each page. Cory multiplies  $8 \times 6$  to find the number of photos. What is another way to find the number of photos?
- (A) add  $6 + 8$   
(B) multiply  $6 \times 8$   
(C) add  $8 + 6$   
(D) multiply  $6 \times 6$

9. Demi has 36 toy cars. She puts them in 4 rows with 9 in each row. What is another way Demi can arrange the toy cars to show the Commutative Property of Multiplication?

- (A) 6 rows of 6  
(B) 3 rows of 12  
(C) 9 rows of 4  
(D) 2 rows of 18

11. **Multi-Step** Juan puts 3 rows of 5 stickers in a book. Then he puts 5 rows of 3 stickers on the next page. How many stickers does Juan put in the book?

- (A) 15  
(B) 16  
(C) 30  
(D) 25

10. Risa makes this model.



Which of the following can Risa write to show the Commutative Property of Multiplication?

- (A)  $3 \times 2 = 2 \times 3$   
(B)  $2 \times 2 = 3 \times 3$   
(C)  $3 \times 2 = 1 \times 6$   
(D)  $3 \times 2 = 1 \times 6$

12. **Multi-Step** One classroom has 4 rows of 5 chairs. Another classroom has 5 rows of 4 chairs. How many chairs are there in both classrooms?

- (A) 20  
(B) 19  
(C) 25  
(D) 40