



# 4.OA.A.1 Identifying and Applying Multiplication Properties

## Answer Key

4.OA.A.1: Interpret a multiplication equation as a comparison.

1. Name the property used in the following equations. Make a god model to prove that equation is true.

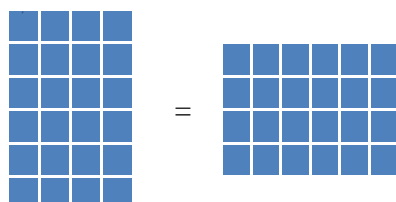
a.  $4 \times 6 = 6 \times 4$

b.  $1 \times 7 = 7$

c.  $3 \times 12 = (3 \times 10) + (3 \times 2)$

Solution:

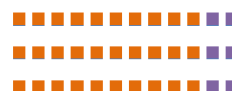
a.



b.



c.



is equal to



2. Use one of multiplication properties to find the missing number. Name the property used.

a.  $7 \times 4 = 4 \times \underline{7}$

b.  $5 \times 13 = (5 \times \underline{10}) + (5 \times 3)$

c.  $\underline{1} \times 8 = 8$

d.  $6 \times (3 \times 2) = (\underline{6} \times 3) \times 2$

Solution:

a. Commutative Property

b. Distributive Property

c. Identity Property

d. Associative Property

3. There are 5 rows of plant beds in a garden and each row has 4 planter boxes. Each planter boxes has 3 seeds. Show two different ways to arrange the planter boxes and seeds. Draw models.

Solution:



4. There are 21 children in an orphanage. Each child received 3 gift boxes. Use distributive property of addition to find out how many gift boxes are given to all the children.

Solution:

$3 \times 21 = (3 \times 20) + (3 \times 1) = 60 + 3 = 63$

Answer: 63 gift boxes

5. Henry bought 4 cookies, each costing \$3. Aven bought 5 cookies, each costing \$2. Who spent more money? How much more?

Solution:

Henry:  $4 \times \$3 = \$12$ ; Aven:  $5 \times \$2 = \$10$

$\$12 - \$10 = \$2$

Henry spent more money than Aven by \$2.

6. Which property is shown here?

$5 \times 0 = 0$

- A. Identity Property
- B. Distributive Property
- C. Associative Property
- D. Zero Property

Solution:

D. Zero Property