

# Properties of Multiplication

These are properties of multiplication.

### Commutative Property of Multiplication

Changing the order of the factors does not affect the product.

$$6 \times 3 \times 20 = 3 \times 6 \times 20$$

$$18 \times 20 = 18 \times 20$$

$$360 = 360$$

### Associative Property of Multiplication

Changing the grouping of the factors does not change the product.

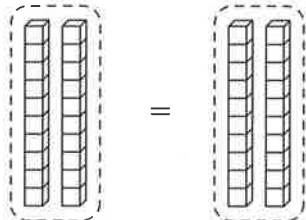
$$(6 \times 3) \times 20 = 6 \times (3 \times 20)$$

$$18 \times 20 = 6 \times 60$$

$$360 = 360$$

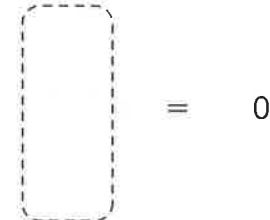
### Identity Property of Multiplication

Multiplying a factor by one equals the factor.

$$20 \times 1 = 20$$


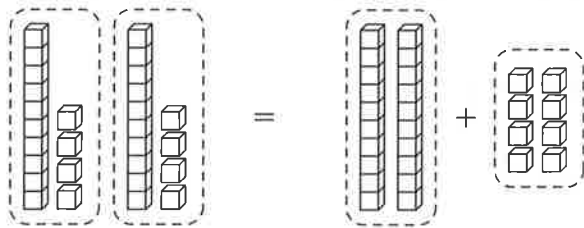
### Zero Property

Multiplying a factor by zero equals zero.

$$35 \times 0 = 0$$


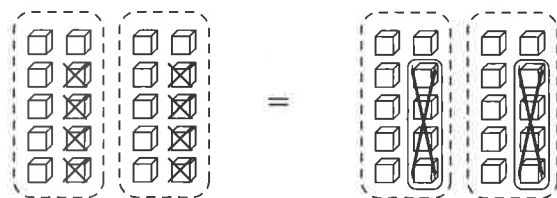
### Distributive Property of Multiplication over Addition

$$2 \times (10 + 4) = (2 \times 10) + (2 \times 4)$$



### Distributive Property of Multiplication over Subtraction

$$2 \times (10 - 4) = (2 \times 10) - (2 \times 4)$$



Multiply.

1.  $4 \times 35 =$  \_\_\_\_\_

2.  $3 \times 29 =$  \_\_\_\_\_

3.  $6 \times 51 =$  \_\_\_\_\_

4.  $2 \times 25 \times 5 =$  \_\_\_\_\_

5.  $16 \times 0 \times 93 =$  \_\_\_\_\_

6.  $12 \times 1 \times 10 =$  \_\_\_\_\_

7.  $5 \times 8 \times 20 =$  \_\_\_\_\_

8.  $7 \times 15 \times 1 =$  \_\_\_\_\_

9.  $25 \times 3 \times 4 =$  \_\_\_\_\_

10.  $2 \times 6 \times 50 =$  \_\_\_\_\_

11.  $13 \times 0 \times 10 =$  \_\_\_\_\_

12.  $2 \times 4 \times 30 =$  \_\_\_\_\_