

◆ Draw the following table on the board.

Property	of Addition	of Multiplication
Commutative	$a + b = b + a$	$a \times b = b \times a$
Associative	$a + (b + c) = (a + b) + c$	$a \times (b \times c) = (a \times b) \times c$
Identity	$a + 0 = a$	$a \times 1 = a$
Zero	Not applicable	$a \times 0 = 0$
Distributive	$a(b + c) = (a \times b) + (a \times c)$	

### Addition Properties

Commutative Property (order)

$$a + b = b + a \quad 5 + 3 = 3 + 5$$

Associative Property (grouping)

$$a + (b + c) = (a + b) + c$$

$$4 + (3 + 2) = (4 + 3) + 2$$

Identity Property

$$a + 0 = a \quad 5 + 0 = 5$$

### Multiplication Properties

Commutative Property (order)

$$a \times b = b \times a \quad 5 \times 3 = 3 \times 5$$

Associative Property (grouping)

$$a \times (b \times c) = (a \times b) \times c$$

$$4 \times (3 \times 2) = (4 \times 3) \times 2$$

Identity Property

$$a \times 1 = a \quad 5 \times 1 = 5$$

Zero Property

$$a \times 0 = 0 \quad 5 \times 0 = 0$$

### Distributive Properties of Multiplication over Addition

$$a \times (b + c) = (a \times b) + (a \times c) \quad 4 \times (2 + 3) = (4 \times 2) + (4 \times 3)$$