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|---|--|
| 1. Commutative Property                             | 4. Inverse Property for Addition or Multiplication |
| 2. Associative Property                             | 5. Distributive Property                           |
| 3. Identity Property for Addition or Multiplication | 6. Zero Product Property                           |

Nov 15-8:45 AM

"Commutative" = Change Order  
 ONLY Add & Multiply  
 ONLY Add + Multiply  
 Associate with Different Groups  
 = move parentheses  
 ORDER DOESN'T CHANGE!

Add Zero to keep the number's identity  
 OR  
 Multiply by One to keep the number's identity

$$3 + 2 = \frac{2}{7} + \frac{3}{5}$$

$$5 \cdot 7 = \frac{7}{2} \cdot \frac{5}{18}$$

$$17 + 8 + 3 = 17 + \frac{3}{2} + \frac{8}{18}$$

$$5 \cdot 18 \cdot 2 = 5 \cdot \frac{2}{9} \cdot \frac{18}{1}$$

$$6 + (4 + 8) = (\frac{6}{4} + \frac{4}{9}) + 8$$

$$4 \cdot (5 \cdot 9) = (\frac{4}{5} \cdot 5) \cdot \frac{9}{9}$$

$$(4 + 2) + -2 = 4 + (2 + -2)$$

Additive Identity

$$975 + 0 = 975$$

$$0 + -7 = -7$$

$$5 + (-3 + 3) = 5$$

Multiplicative Identity

$$-28 \cdot 1 = -28$$

$$3.75 \cdot 1 = 3.75$$

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**Add** a number to its **opposite**, the answer is 0.

OR

**Multiply** a number by its **reciprocal**, the answer is 1.

↳ flipped fraction

Answer is the Identity #

**Additive Inverse**

$$3 + \underline{-3} = 0$$

$$-7.5 + \underline{7.5} = 0$$

**Multiplicative Inverse**

$$2 \cdot \underline{\frac{1}{2}} = 1$$

$$\frac{3}{4} \cdot \underline{\frac{4}{3}} = 1$$

$$\frac{3}{4} \cdot \underline{\frac{4}{3}} = \frac{12}{12} = 1$$

**Distribute = Give out**  
Distribute number to each part



$$4 \cdot (20 + 3) = 4 \cdot \underline{\quad} + 4 \cdot \underline{\quad}$$

$$6 \cdot (30 - 1) = \underline{\quad} \cdot 30 - \underline{\quad} \cdot 1$$

$$8(\$0.99) = 8(\$1) - 8(\underline{\quad})$$

**Zero Product =**  
**Zero Times a number**

IS ALWAYS 0

$$21 \cdot \underline{0} = \underline{0}$$

$$-8 \cdot \underline{0} = \underline{0}$$

$$6 \cdot (-4 + 4) = \underline{0}$$

$$0 \cdot (793 \cdot 516) = \underline{0}$$