

Commutative  
Property

Associative  
Property

Identity Property  
for Addition or  
Multiplication

Inverse Property  
for Addition or  
Multiplication

Distributive  
Property

Zero Product  
Property

"**CO**mmutative"  
= **C**hange **O**rder

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$$\begin{aligned}3 + 2 &= \underline{\quad} + \underline{\quad} \\5 \cdot 7 &= \underline{\quad} \cdot \underline{\quad} \\17 + 8 + 3 &= 17 + \underline{\quad} + \underline{\quad} \\5 \cdot 18 \cdot 2 &= 5 \cdot \underline{\quad} \cdot \underline{\quad}\end{aligned}$$

**Associate** with  
**Different Groups**  
= move parentheses

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$$\begin{aligned}6 + (4 + 8) &= (\underline{\quad} + \underline{\quad}) + 8 \\4 \cdot (5 \cdot 9) &= (\underline{\quad} \cdot 5) \cdot \underline{\quad} \\(4 + 2) + -2 &= 4 + (2 + -2)\end{aligned}$$

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

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$$\begin{aligned}975 + 0 &= \underline{\quad} \\0 + \underline{\quad} &= -7 \\5 + (-3 + 3) &= \underline{\quad} \\-28 \cdot \underline{\quad} &= -28 \\ \underline{\quad} \cdot 1 &= 3.75\end{aligned}$$

**Add** a number to its  
**opposite**, the answer is 0.  
OR  
**Multiply** a number by its  
**reciprocal**, the answer is 1.

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$$\begin{aligned}3 + \underline{\quad} &= 0 \\-7.5 + \underline{\quad} &= 0 \\2 \cdot \frac{1}{2} &= \underline{\quad} \\ \frac{3}{4} \cdot \underline{\quad} &= 1\end{aligned}$$

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



$$\begin{aligned}4 \cdot (20 + 3) &= 4 \cdot \underline{\quad} + 4 \cdot \underline{\quad} \\6 \cdot (30 - 1) &= \underline{\quad} \cdot 30 - \underline{\quad} \cdot 1 \\8(\$0.99) &= 8(\$1) - 8(\$.\underline{\quad})\end{aligned}$$

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

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$$\begin{aligned}21 \cdot 0 &= \underline{\quad} \\-8 \cdot \underline{\quad} &= 0 \\6 \cdot (-4 + 4) &= \underline{\quad} \\0 \cdot (793 \cdot 516) &= \underline{\quad}\end{aligned}$$