Notes on DISTRIBUTIVE PROPERTY

The Distributive Property of Multiplication over Adding and Subtracting says that if I am multiplying something by a set of parenthesis, I can multiply the item by EVERYTHING INSIDE of the parenthesis before actually performing what is inside of the parenthesis (which is first in PEMDAS.)

Algebraically, this looks like **$a \cdot (b+c) = a \cdot c + a \cdot c$**, or **$a \cdot (b-c) = a \cdot b - a \cdot c$**

Numerically, it looks like this $3 \cdot (10 + 2) = 3 \cdot 10 + 3 \cdot 2$.

Another example using variables, $3 \cdot (x - 4) = 3 \cdot x - 3 \cdot 4 = 3x - 12$

$(16 - 3x) \cdot 2 = 16 \cdot 2 - 3x \cdot 2 = 32 - 6x$

$6x \cdot (2y - 4) = 6x \cdot 2y - 6x \cdot 4 = 12xy - 24x$