# The Distributive Property

**Step 1:** Identify the number you are distributing

(it's always the # on the outside of the parenthesis)

$6(4+5)$

**Step 2:** Distribute that number to each term in the ( ).

$6(4+5)$

$6 \cdot 4 + 6 \cdot 5$

**Step 3:** Solve both multiplication problems

$6(4+5)$

$6 \cdot 4 + 6 \cdot 5$

$24 + 30$

**Step 4:** Finish solving the problem (as much as you can)

$6(4+5)$

$6 \cdot 4 + 6 \cdot 5$

$24 + 30$

$54$ final answer

# Additional Examples (with variables)

$7(3y + 2)$

$7 \cdot 3y + 7 \cdot 2$

$21y + 14$

this is your final answer - Why? You cannot solve this problem any further because you do not know the value of the variable

$(10b - 5)12$

$12 \cdot 10b - 12 \cdot 5$

$120b - 60$

You can't simplify your answer any further because you do not know the value of the variable!

*Note: the outside term does not always come at the beginning of the problem - it can also come at the end of the problem but the process does not change!