

Combining Like Terms

Term - a #, a variable, or the product of #s and variables.

Examples: 5, 3 (constants), x , $5x$, $\frac{x}{5}$, x^2 , $5x^2$

*Separate terms between + and - signs!

Coefficient - the number in front of a variable

*If there is none, then it is 1

Like Terms - terms that have the same variable and are raised to the same power.

Examples: $7w$ and $9w$, 6 and 3 , $12x^2$ and $3x^2$
* $3r$ and $3r^2$ are not like terms

*When simplifying expressions, only LIKE TERMS can be combined!

How It Works!

Incorrect:

$$3x + 5x + 2 = \boxed{10x}$$

$$\begin{array}{r} 3 \cdot 2 + 5 \cdot 2 + 2 = 10 \cdot 2 \\ 6 + 10 + 2 \end{array}$$

$$18 \neq 20$$

if $x=2$

Correct:

$$3x + 5x + 2 = \boxed{8x + 2}$$

$$\begin{array}{r} 3 \cdot 2 + 5 \cdot 2 + 2 = 8 \cdot 2 + 2 \\ 6 + 10 + 2 = 16 + 2 \end{array}$$

$$16 + 2 = 18$$

$$\checkmark 18 = 18$$

$8x + 2$ is the correct expression

EX: $\boxed{3x} + \boxed{5x} + \boxed{2y} + 4(-y)$
 $8x + y + 4 \leftarrow \text{answer}$