

Expressions - Substitution

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- An expression does NOT have an equals sign:

Expressions:

$$x + 5$$

$$3x - 1$$

Equations:

$$x + 5 = 7$$

$$3x - 1 = 11$$

- We don't "solve for x " in an expression
- We can substitute for x and follow BEDMAS

Ex. Evaluate if $x = 2$ and $y = -3$

a) $5x + 3$

$$5 \cdot 2 + 3$$

$$\downarrow \quad \downarrow$$
$$10 + 3$$

$$\downarrow$$
$$\textcircled{13}$$

b) $3x + 10y$

$$3 \cdot 2 + 10 \cdot (-3)$$

$$\downarrow \quad \downarrow$$
$$6 + -30$$

$$\downarrow$$
$$\textcircled{-24}$$

*side by side means multiply!

Ex. Evaluate if $a = 3$, $b = -4$, $c = 8$

a) $2a + \frac{c}{-2}$ ← divide

$$2 \cdot 3 + \frac{8}{-2}$$

$$\downarrow \quad \downarrow$$
$$6 + -4$$

$$\downarrow$$
$$\textcircled{2}$$

b) $\frac{ac}{b}$

$$\frac{3 \cdot 8}{-4}$$

$$\frac{24}{-4}$$

$$\textcircled{-6}$$

c) $a^2 - c$

$$3^2 - 8$$

$$\downarrow \quad \downarrow$$
$$9 - 8$$

$$\downarrow$$
$$\textcircled{1}$$