

Order of Operations (PEMDAS)

- ① Parentheses
- ② Exponents
- ③ Multiply/Divide
- ④ Add/Subtract

ex $2 - 3 \cdot 4 + 7 = -3$

$$\begin{array}{ccccccc} 2 & - & 3 & \cdot & 4 & + & 7 \\ & & \downarrow & & \downarrow & & \downarrow \\ 2 & - & 12 & + & 7 & & \\ & \xrightarrow{-10} & & \xrightarrow{+7} & & & \\ & & & & & & -3 \end{array}$$

ex $3x + 4(2x - 1) + 5$

Distribute

$$\begin{array}{ccccccc} 3x & + & 4 & (2x - 1) & + & 5 \\ \downarrow & & & \downarrow & & \downarrow \\ 3x & + & 8x & - 4 & + & 5 \\ \hline 11x & + & 1 \end{array}$$

Combine Like Terms

- same variable
- same exponent

Evaluating Variable Expressions:

ex $2x + 3$ $x = 5$

plug in

$$\begin{array}{ccccccc} 2 & \cdot & 5 & + & 3 & = & 13 \\ \downarrow & & \downarrow & & & & \\ 10 & + & 3 & & & & \end{array}$$

ex $a^2 + 2a - 8$ $a = 3$

plug in

$$\begin{array}{ccccccc} 3^2 & + & 2 \cdot 3 & - & 8 & = & 7 \\ \downarrow & & \downarrow & & \downarrow & & \\ 9 & + & 6 & - & 8 & & \\ & \xrightarrow{15} & & \xrightarrow{-8} & & & \\ & & & & & & 7 \end{array}$$