

# Distributive Property with Combining Like Terms:

$$4(x+2) - 3x \Rightarrow 4(x+2) + (-3x)$$

	$x$	$+$	$2$
$4$	$4 \cdot x$		$4 \cdot 2$
	$4x + 8$		

$$\boxed{4x} + 8 + \boxed{(-3x)}$$

$$\boxed{x + 8}$$

Steps

- ① Distribute
- ② Combine like terms

Remember order of operations

$$3(2x-4)+5x \Rightarrow 3(2x+(-4))+5x$$

	$2x + -4$	
$3$	$3 \cdot 2x$	$3 \cdot -4$
	$6x + -12$	

$$\boxed{6x} + (-12) + \boxed{5x}$$

$$\boxed{11x + (-12)}$$

$$7x^2 - 2x(4+x)$$

$$7x^2 + -2x(4+x)$$

$$-2x \cdot 4 = -8x$$

$$-2x \cdot x = -2x^2$$

$$\boxed{7x^2} - 8x + \boxed{-2x^2}$$

$$\boxed{5x^2 - 8x}$$

$$-2(x+1) - (x+8) \Rightarrow \underline{-2(x+1)} + \underline{-(x+8)}$$

	$x$	$+1$
$-2$	$-2 \cdot x$	$-2 \cdot 1$
$-2x + -2$		

$$-1 \cdot x = -1x$$

$$-1 \cdot 8 = -8$$

$$-1x + -8$$

$$\boxed{-2x} + \textcircled{-2} + \boxed{-1x} + \textcircled{-8}$$

$$\boxed{-3x + -10}$$

$$\begin{aligned} & -2 - 6x + 4x(-x - 4) + 3 \\ & -2 + -6x + \underbrace{4x(-x - 4)} + 3 \end{aligned}$$

$$\begin{aligned} 4x \cdot -x &= -4x^2 \\ 4x \cdot -4 &= -16x \end{aligned}$$

$$\begin{aligned} & -2 + -6x + -4x^2 + -16x + 3 \\ & -4x^2 + \underbrace{-6x + -16x} + \underbrace{-2 + 3} \end{aligned}$$

Combine like terms

$$-4x^2$$