

## Writing Equations in Slope Intercept Form

Slope Intercept Form:  $y = mx + b$    
  $\uparrow$  slope   
  $\leftarrow$  y-intercept

1)  $y + 3 = \frac{3}{4}(x - 4)$   $m = \frac{3}{4}$  y-int:  $(0, -6)$

$$\begin{array}{r} y + 3 = \frac{3}{4}x - 3 \\ -3 \quad -3 \\ \hline y = \frac{3}{4}x - 6 \end{array}$$

2)  $y - 5 = -\frac{1}{2}(x + 2)$   $m = -\frac{1}{2}$  y-int:  $(0, 4)$

$$\begin{array}{r} y - 5 = -\frac{1}{2}x - 1 \\ +5 \quad +5 \\ \hline y = -\frac{1}{2}x + 4 \end{array}$$

3)  $y + \frac{1}{4}x = 0$   $m = -\frac{1}{4}$  y-int:  $(0, 0)$

$$\begin{array}{r} y + \frac{1}{4}x = 0 \\ -\frac{1}{4}x \quad -\frac{1}{4}x \\ \hline y = -\frac{1}{4}x \end{array}$$

4)  $0 = -4 + 3x - 4y$   $m = \frac{3}{4}$  y-int:  $(0, -1)$

$$\begin{array}{r} 0 = -4 + 3x - 4y \\ +4y \quad +4y \\ \hline 4y = -4 + 3x \\ \hline y = -1 + \frac{3}{4}x \\ \hline y = \frac{3}{4}x - 1 \end{array}$$

# PEMDAS

$$5) -6y + x = -23$$

$$m = \frac{1}{6} \quad y\text{-int: } (0, \frac{23}{6})$$

$$\frac{-6y}{-6} = \frac{-23 - x}{-6}$$

$$y = \frac{23}{6} + \frac{1}{6}x$$

$$y = \frac{1}{6}x + \frac{23}{6}$$

$$6) -6 - 10y = -2x$$

$$m = \frac{1}{5} \quad y\text{-int: } (0, -\frac{3}{5})$$

$$\frac{-10y}{-10} = \frac{-2x + 6}{-10}$$

$$y = \frac{1}{5}x - \frac{3}{5}$$