

# Homework: Show work on pages 65 & 66 1/5

Determine the equation of the line that passes through the points:

1. (1, 1) and (3, 5)	2. (80, -20) and (30, 10)
3. (-6, 11) and (-4, -3)	4. (8, -3) and (-4, -3).

5. Solve and graph the solution of the inequality:

$$9x - 24 > -4(3x - 8)$$

6. Given the expression  $5x^2 - x + 3$ . State the constant, coefficient of  $x$ , and the number of terms in this expression.

Constant: 3    Coefficient: -1    Term(s): 3

1) <sup>step 1</sup> Slope =  $\frac{y_2 - y_1}{x_2 - x_1}$     <sup>step 2</sup>  $y = mx + b$  (1, 1)

(1, 1)  
(3, 5)  
x y

$$m = \frac{5 - 1}{3 - 1}$$

$$m = \frac{4}{2} = \frac{2}{1}$$

$$1 = (2)(1) + b$$

$$1 = 2 + b$$

$$\frac{-2 - 2}{-1} = b$$

$$-1 = b$$

Equation is  $y = 2x - 1$

2) <sup>step 1</sup>  $m = \frac{y_2 - y_1}{x_2 - x_1}$     <sup>step 2</sup>  $y = mx + b$  (30, 10)

(80, -20)  
(30, 10)  
x y

$$m = \frac{10 - (-20)}{30 - 80}$$

$$m = \frac{30}{-50} = \frac{3}{-5}$$

$$10 = (-\frac{3}{5})(30) + b$$

$$10 = -18 + b$$

$$\frac{+18 + 18}{28} = b$$

$$28 = b$$

Equation is  $y = -\frac{3}{5}x + 28$

3)	x	y	$\Delta y$	step 1
$\Delta x$	-6	11	-14	$m = \frac{\Delta y}{\Delta x} = \frac{-14}{2} = -7$
	-4	-3		

step 2

$$y = mx + b$$

$$11 = (-7)(-6) + b$$

$$11 = 42 + b$$

$$\begin{array}{r} -42 \\ -42 \end{array}$$

Equation  $-31 = b$

$$y = -7x - 31$$

4)	x	y	$\Delta y$	step 2	$y = mx + b$
$\Delta x$	8	-3	+0		$-3 = (0)(8) + b$
	-4	-3			$-3 = b$

step 1  $m = \frac{\Delta y}{\Delta x} = \frac{0}{-12} = 0$

horizontal line

$$y = mx + b$$

$$y = 0x - 3 \rightarrow y = -3$$

$$5.) \quad 9x - 24 > -4(3x - 8)$$

$$9x - 24 > -12x + 32$$

$$\begin{array}{r} -12x \\ -12x \end{array} \quad \begin{array}{r} +12x \\ +12x \end{array}$$

$$-3x - 24 > 32$$

$$\begin{array}{r} +24 \\ +24 \end{array}$$

$$-3x > 56$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

$$x < -22$$