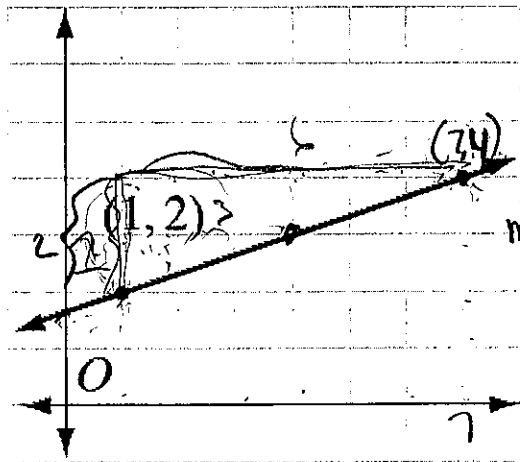




8) Write an equation, in the form  $y = mx + b$ , that describes the following graph:



$$m = \frac{\text{rise}}{\text{run}}$$

$$m = \frac{2}{6}$$

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

$$m = \frac{1}{3} \quad (1, 2)$$

$$y = mx + b$$

$$2 = \frac{1}{3}(1) + b$$

$$2 = \frac{1}{3} + b$$

$$-\frac{1}{3} \quad -\frac{1}{3}$$

$$b = \frac{5}{3}$$

$$y = mx + b$$

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

$$b = \frac{5}{3}$$

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

9) Write an equation of the line, in the form  $y = mx + b$ , that passes through the given points.

$$(0, -3), (1, -1)$$

$$x_1 y_1 \quad x_2 y_2$$

$$y = mx + b$$

$$m = 2$$

$$b = -3$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{-1 - (-3)}{1 - 0}$$

$$= \frac{-1 + 3}{1}$$

$$m = \frac{-1 - (-3)}{1 - 0}$$

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

$$m = 2$$

$$(0, -3) \quad m = 2 \quad y = mx + b$$

$$-3 = 2(0) + b$$

$$-3 = 0 + b$$

$$b = -3$$

$$y = 2x - 3$$

10) Write an equation of the line, in the form  $y = mx + b$ , that passes through the given points.

$$(1, 4), (3, 8)$$

$$x_1 y_1 \quad x_2 y_2$$

$$y = mx + b$$

$$m = 2$$

$$b = 2$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{8 - 4}{3 - 1}$$

$$m = \frac{8 - 4}{3 - 1}$$

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

$$m = 2$$

$$(1, 4) \quad m = 2$$

$$y = mx + b$$

$$4 = 2(1) + b$$

$$4 = 2 + b$$

$$-2 \quad -2$$

$$b = 2$$

$$y = 2x + 2$$