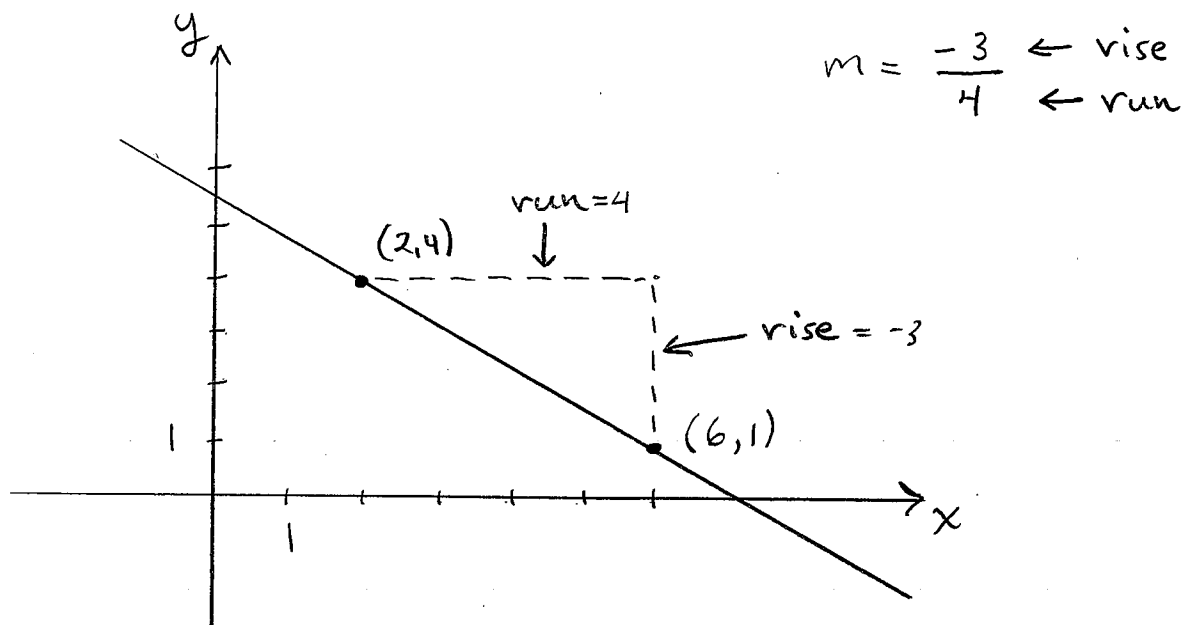


- (1) [5] Neatly graph the line containing the point $P = (2, 4)$ and having slope $m = -3/4$.



- (2) [5] Determine an equation of the line with x -intercept $(2, 0)$ and y -intercept $(0, -1)$.

$$\begin{aligned}
 m &= \frac{y_2 - y_1}{x_2 - x_1} \\
 &= \frac{0 - (-1)}{2 - 0} \\
 &= \frac{1}{2}
 \end{aligned}$$

Since y -intercept is $(0, -1)$, $b = -1$.

∴ by slope-intercept formula,

$$y = mx + b$$

$$y = \frac{1}{2}x - 1$$

(3) [5] Determine the point of intersection of the following pair of lines:

$$L: 3x - 4y = 2$$

$$M: x + 2y = 4$$

using M: $x = 4 - 2y$

sub. \nearrow into L: $3x - 4y = 2$

$$3(4 - 2y) - 4y = 2$$

$$12 - 6y - 4y = 2$$

$$12 - 10y = 2$$

$$-10y = -10$$

$$y = 1$$

Now use $x = 4 - 2y$:

$$x = 4 - 2(1)$$

$$= 2$$

\therefore Point of intersection is $(2, 1)$

Check:

$$L: \begin{array}{l} 3x - 4y \\ 3(2) - 4(1) \\ 6 - 4 \\ 2 = 2 \end{array} \left\{ \begin{array}{l} 2 \\ 2 \\ 2 \\ \checkmark \end{array} \right.$$

$$3(2) - 4(1) \left\{ \begin{array}{l} 2 \\ 2 \\ 2 \\ \checkmark \end{array} \right.$$

$$6 - 4 \left\{ \begin{array}{l} 2 \\ 2 \\ 2 \\ \checkmark \end{array} \right.$$

$$2 = 2 \checkmark$$

$$M: \begin{array}{l} x + 2y \\ 2 + 2(1) \\ 2 + 2 \\ 4 = 4 \end{array} \left| \begin{array}{l} 4 \\ 4 \\ 4 \\ \checkmark \end{array} \right.$$

$$2 + 2(1) \left| \begin{array}{l} 4 \\ 4 \\ 4 \\ \checkmark \end{array} \right.$$

$$2 + 2 \left| \begin{array}{l} 4 \\ 4 \\ 4 \\ \checkmark \end{array} \right.$$

$$4 = 4 \checkmark$$