

[slope intercept form][section 22]

[find the slope and y - intercept of the given line]

(1.) $2x + y = 4$ here is the problem

$$\begin{array}{r} -2x \quad -2x \\ \hline y = -2x + 4 \end{array} \quad \begin{array}{l} \text{subtract } 2x \text{ from each side} \\ \\ \text{subtract} \end{array}$$

results: $m = -2$ is the slope & $(0,4)$ is the y - intercept

(2.) $y - 2x = -4$ here is the problem

$$\begin{array}{r} +2x \quad +2x \\ \hline y = 2x - 4 \end{array} \quad \begin{array}{l} \text{add } 2x \text{ to each side} \\ \\ \text{add} \end{array}$$

results: $m = 2$ is the slope; $(0,-4)$ is the y - intercept

(3.) $6 + 2y = 8x$ here is the problem

$$\begin{array}{r} -6 \quad -6 \\ \hline 2y = 8x - 6 \\ \hline \frac{2y}{2} = \frac{8x}{2} - \frac{6}{2} \\ y = 4x - 3 \end{array} \quad \begin{array}{l} \text{subtract } 6 \text{ from each side} \\ \\ \text{subtract} \\ \\ \text{divide thru by } 2 \\ \\ \text{divide and cancel} \end{array}$$

results: $m = 4$ is the slope; $(0,-3)$ is the y - intercept

(4.) $2y + 8 = 0$ here is the problem

$$\begin{array}{r} -8 \quad -8 \\ \hline 2y = -8 \\ \hline \frac{2y}{2} = \frac{-8}{2} \end{array} \quad \begin{array}{l} \text{subtract } 8 \text{ from each side} \\ \\ \text{subtract} \\ \\ \text{divide each side by } 2 \end{array}$$

$$y = -4 \quad \text{divide and cancel}$$

results: $m = 0$ is the slope, $(0, -4)$ is the y - intercept

(5.) $4x - 2y = 12$ here is the problem

$$\frac{\quad}{-2} \quad \frac{\quad}{-2} \quad \frac{\quad}{-2} \quad \text{divide thru by } -2$$

$$-2x + y = -6 \quad \text{divide and cancel}$$

$$+ \quad 2x \quad + 2x \quad \text{add } 2x \text{ to each side}$$

$$\hline y = 2x - 6 \quad \text{add}$$

results: $m = 2$ is the slope; $(0, -6)$ is the y - intercept

(6.) $2y - 4x + 6 = 0$ here is the problem

$$\frac{\quad}{2} \quad \frac{\quad}{2} \quad \frac{\quad}{2} \quad \frac{\quad}{2} \quad \text{divide thru by } 2$$

$$y - 2x + 3 = 0 \quad \text{divide and cancel}$$

$$+2x \quad +2x \quad \text{add } 2x \text{ to each side}$$

$$y \quad + 3 = 2x \quad \text{add}$$

$$-3 \quad - 3 \quad \text{subtract } 3 \text{ from each side}$$

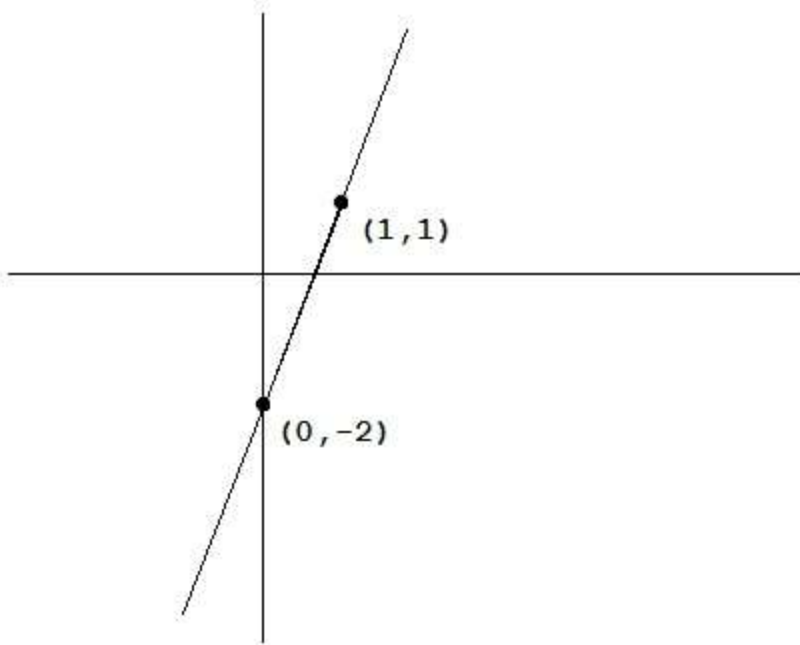
$$\hline y \quad = 2x - 3 \quad \text{subtracts}$$

results: $m = 2$ is the slope; $(0, -3)$ is the y - intercept

[Graph the line using the slope and y - intercept.]

(7.) $y = 3x - 2$ here is the problem

Here is the graph:



(8.) $-2x + y = 4$

$+ 2x \quad + 2x$

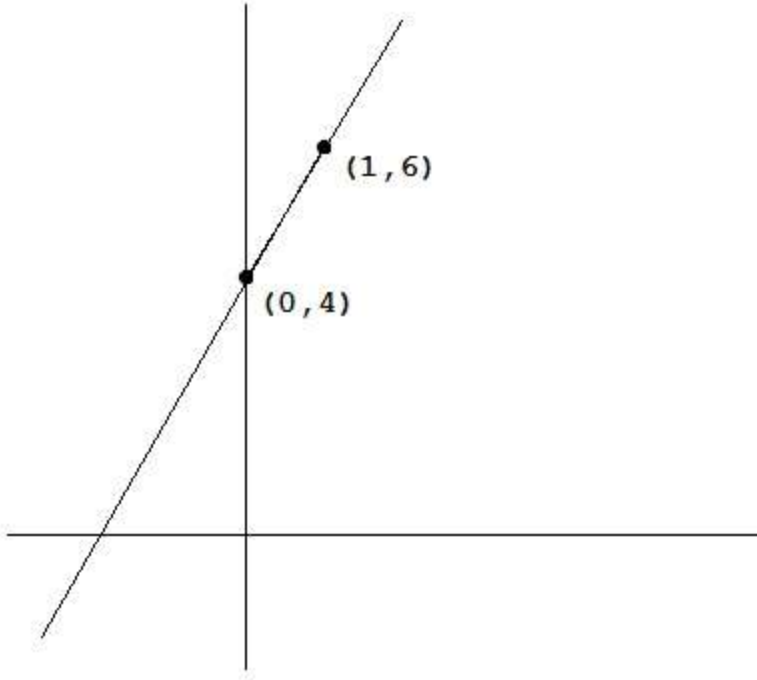
$y = 2x + 4$

here is the problem

add $2x$ to each side

add

Here is the graph:

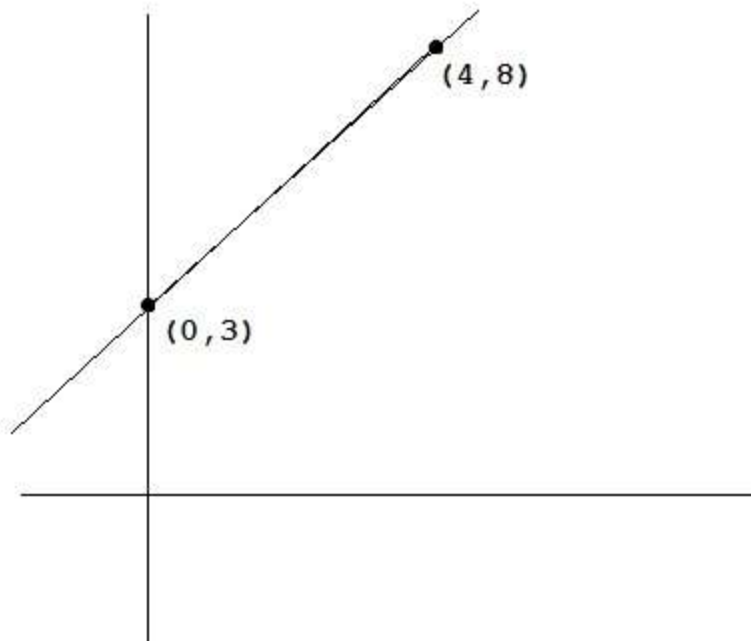


(9.) $4y = 5x + 12$ here is the problem

$$\frac{\quad}{4} = \frac{\quad}{4} + \frac{\quad}{4} \quad \text{divide thru by 4}$$

$$y = (5/4)x + 3 \quad \text{divide and cancel}$$

Here is the graph:



(10.) $2x - y = 3$ here is the problem

$-2x + y = -3$ multiply thru by -1

+ $2x$ + $2x$ add $2x$ to each side

$y = 2x - 3$ add

Here is the graph:

