Algebra I

8-4

Slope/Intercept Form of a Line

Slope / Intercept form of a Line -

$y = mx + b$

b → y-intercept – the point where the line crosses the y-axis. Always $(0, b)$

y on a side by itself.

m = slope = $\frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise}}{\text{run}}$

Find the slope and the y-intercept of each line.(pg 368)

1) $y = 2x + 1$

$m = 2$

$b = 1$, $(0, 1)$

First, check to make sure y is on a side by itself.

7) $y = 8 - 2x$

$m = -2$

$b = 8$, $(0, 8)$

9) $y = 1x$

$m = 1$

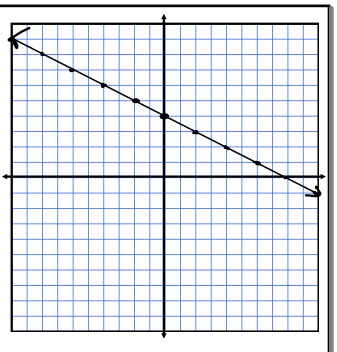
$b = 0$, $(0, 0)$

Graph each of the following lines.

17) $y = -\frac{1}{2}x + 4$

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

$b = 4$ $(0, 4)$



Graph each of the following lines.

19) $x + y = 8$

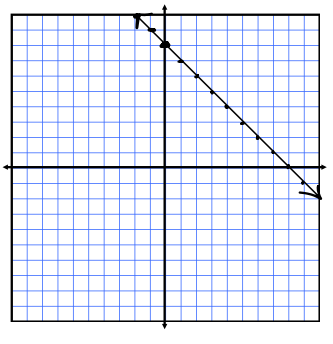
First, we need to get y on a side by itself.

$x - x + y = -x + 8$

$y = -x + 8$

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

$b = 8$ $(0, 8)$



Graph each of the following lines.

25) $3x - 5y = 10$

$\frac{-5y}{-5} = \frac{-3x}{-5} + \frac{10}{-5}$

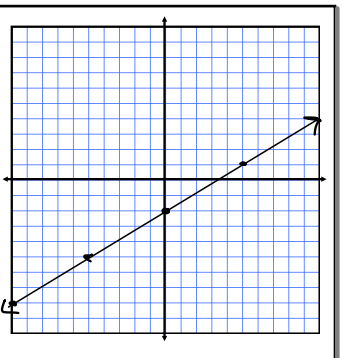
$y = \frac{3}{5}x - 2$

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

$b = -2$

$(0, -2)$

First, we need to get y on a side by itself.



Pg 368

2-28even

8 graphs
Starting at #14