Warm-Up Question:

1. Graph $x + 4y = 8$ using the Intercept Method.

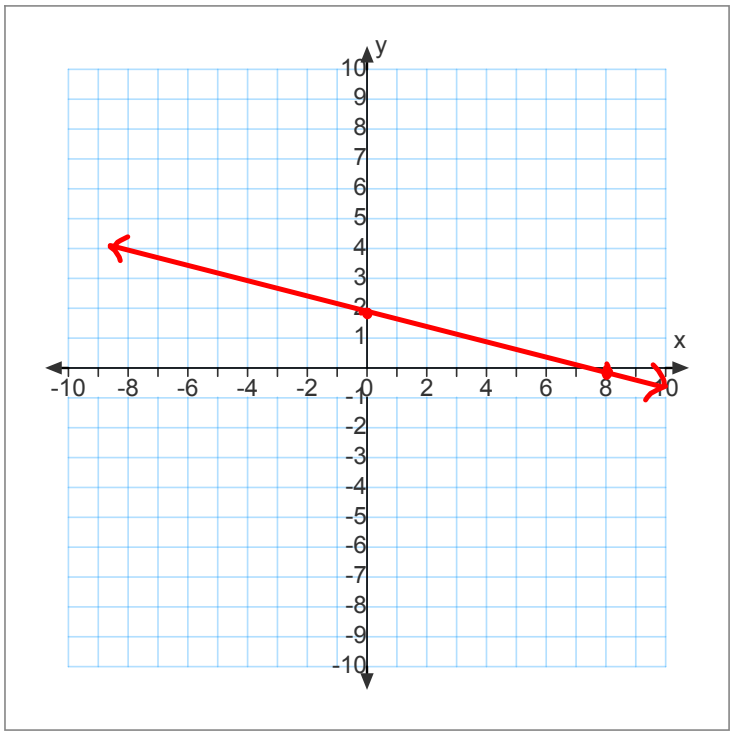
x intercept $\quad x + 4(0) = 8$

$x = 8$

y intercept $\quad 0 + 4y = 8$

$\frac{4y}{4} = \frac{8}{4}$

$y = 2$



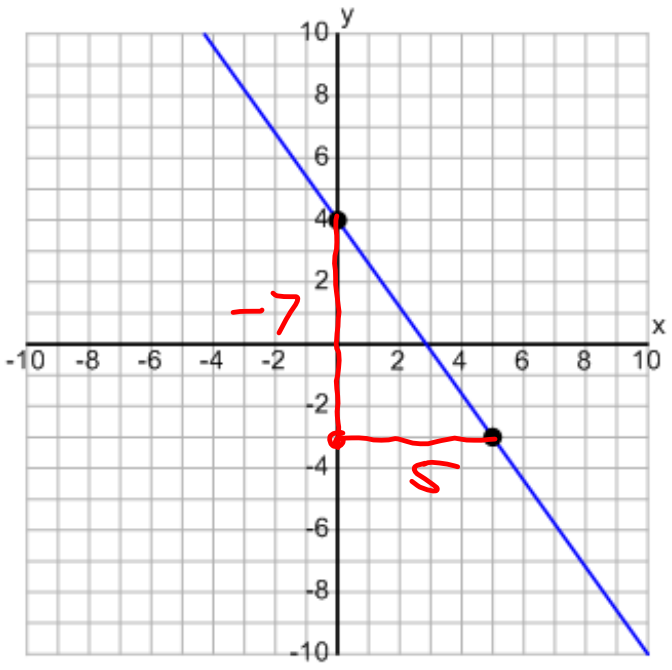
Recap: The equation of a line is in the form

$$y = mx + b$$

slope — y-intercept

Recap: Determine the equation of the following line.

slope $= \frac{-7}{5}$



y-int $= 4$

$y = mx + b$

$y = \frac{-7}{5}x + 4$

Ex. 1 Given the slope and y-intercept, determine the equation of the following lines.

$y = mx + b$

a) $m = \frac{-2}{5}$, $b = 4$

$y = \frac{-2}{5}x + 4$

b) $m = 6$, $b = -1$

$y = 6x - 1$

c) $m = \frac{1}{3}$, $b = 0$

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

Ex. 2 Determine the equation of the following lines given the slope and a point of the line.

$y = mx + b$

a) m = 2 (-4, 1) (x, y)

$1 = 2(-4) + b$

$1 = -8 + b$

$1 + 8 = b$

$9 = b$

$y = 2x + 9$

b) m = -3 (-2, 4) (x, y)

$4 = -3(-2) + b$

$4 = 6 + b$

$4 - 6 = b$

$-2 = b$

$y = -3x - 2$

c) m = $\frac{1}{2}$ (4, 5)

$5 = \frac{1}{2}\left(\frac{4}{1}\right) + b$

$5 = \frac{4}{2} + b$

$5 = 2 + b$

$5 - 2 = b$

$3 = b$

$y = \frac{1}{2}x + 3$

Homework:

Pg. 106 #1 (Determine the equation of the lines)
Pg. 116 # 6
Pg. 133 # 1, 9
Pg. 134 #2, 5, 6