

HW: 4.2/10-21

Warm up:

Write the functions with the given slope and y-intercept.

1) slope = 5, y-intercept = -2

$$y = 5x - 2$$

2) slope = 1, y-intercept = 1

$$y = x + 1$$

3) slope = $-\frac{5}{6}$, y-intercept = 0

$$y = -\frac{5}{6}x$$

4) slope = -1, y-intercept = 10

$$y = -x + 10$$

5) slope = 0, y-intercept = 3

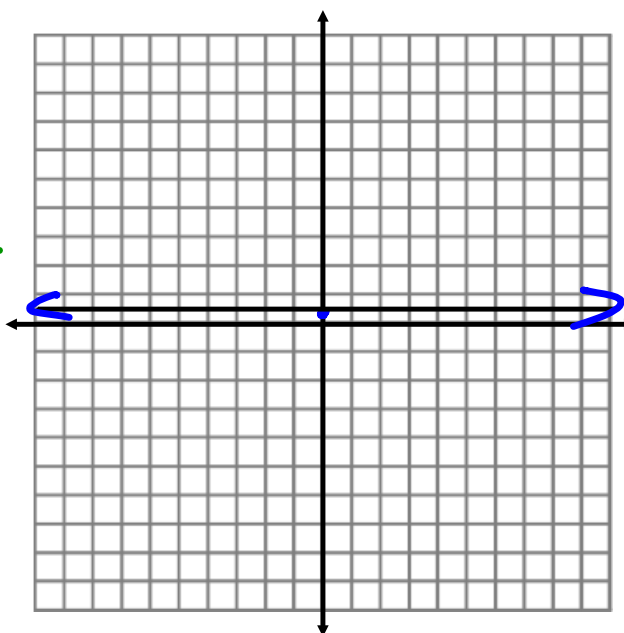
$$y = 3$$

HW Solutions

$$\begin{array}{r} \textcircled{4} \quad 5x - 6y = 36 \\ -5x \qquad -5x \\ \hline -6y = -5x + 36 \\ \frac{-6y}{-6} = \frac{-5x + 36}{-6} \\ \hline y = \frac{5}{6}x - 6 \end{array}$$

Q10

$$\frac{15y}{15} = \frac{3}{15}$$
$$y = \frac{3}{15} = \frac{1}{5}$$

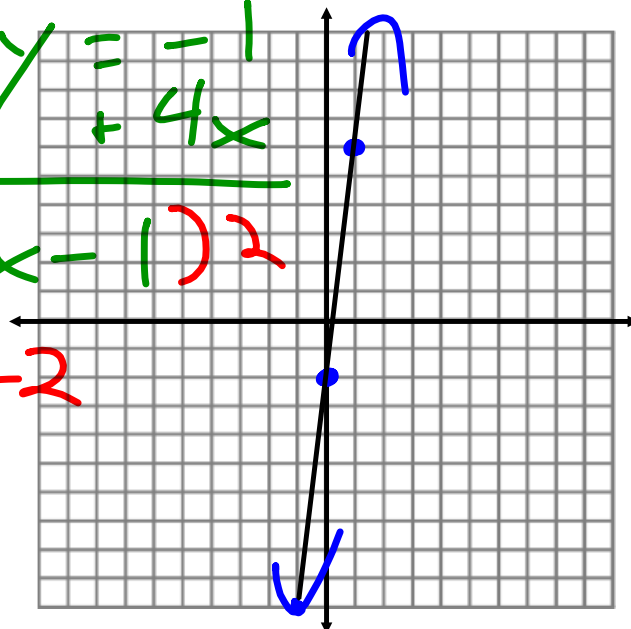


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$$\begin{array}{r} -4x + \frac{1}{2}y = -1 \\ +4x \qquad \qquad +4x \end{array}$$

$$2\left(\frac{1}{2}y\right) = (4x - 1)2$$

$$y = 8x - 2$$

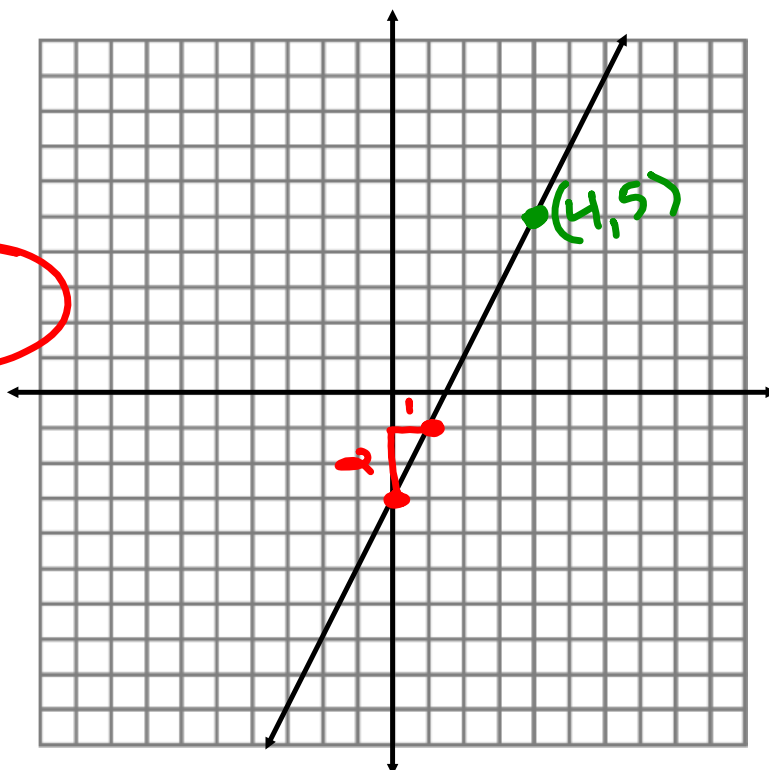


Write a function for the graph.

$$\begin{aligned} y\text{-int} &= -3 \\ \text{slope} &= 2 \end{aligned}$$

$$y = 2x - 3$$

$$5 = 2(4) - 3$$
$$5 = 8 - 3$$



Write a function for the graph.

$$y = -\frac{2}{3}x + 6$$

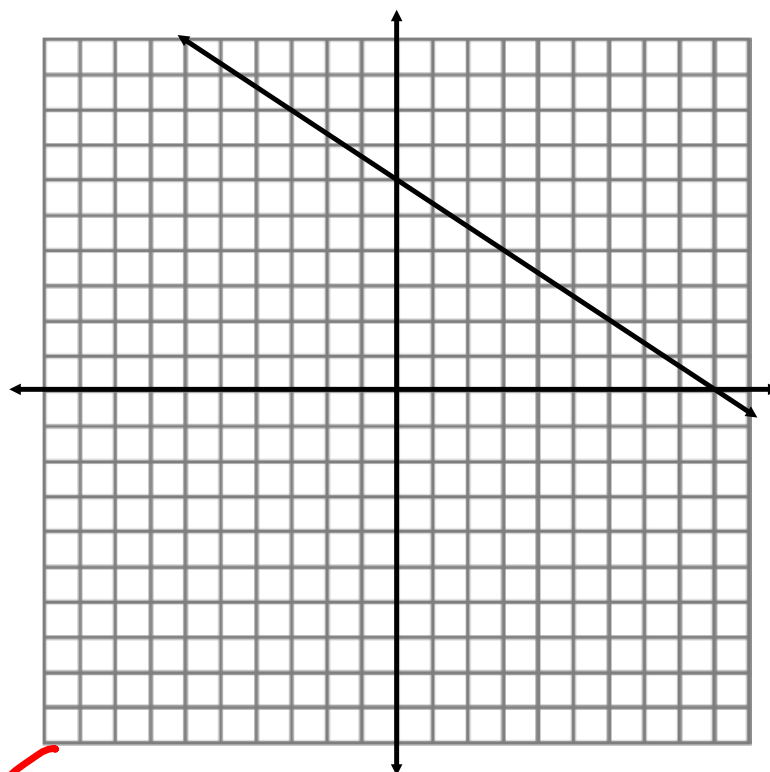
What is the y-intercept?

6

What is the x-intercept?

9

(9, 0)



Write the function for the line with slope 4 that goes through (2, 5).

$$y = mx + b$$

$$y = 4x + b$$

$$5 = 4(2) + b$$

$$5 = 8 + b$$

$$\begin{array}{r} 5 \\ -8 \\ \hline -3 = b \end{array}$$

$$y = 4x - 3$$

Write the function for the line with slope $-2/3$ that goes through $(-6, 8)$.

$$-\frac{2}{3}(-6) = \frac{12}{3}$$

$$y = -\frac{2}{3}x + b$$

$$8 = -\frac{2}{3}(-6) + b$$

$$8 = 4 + b$$

$$\begin{array}{r} 8 \\ -4 \\ \hline 4 = b \end{array}$$

$$y = -\frac{2}{3}x + 4$$

Write a function for the line that goes through
(2, 5) and (6, -3)

$$\frac{\Delta y}{\Delta x} = \frac{5 - (-3)}{2 - 6} = \frac{8}{-4} = -2$$

$$y = -2x + b$$

$$5 = -2(2) + b$$

$$5 = -4 + b$$

$$\begin{array}{r} +4 \quad +4 \\ \hline 9 = b \end{array}$$

$$9 = b$$

$$y = -2x + 9$$

Write the function that has the following function table.

$$\frac{\Delta y}{\Delta x} = \frac{4-1}{3-2} = \frac{3}{1} = 3$$

$$y = 3x + b$$

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

$$4 = 9 + b$$

$$\begin{array}{r} -9 \\ -9 \\ \hline -5 = b \end{array}$$

$$y = 3x - 5$$

x	y
1	-2
2	1
3	4
4	7

Write a function for the line with the given information.

- 1) Line with slope -1 through $(-7, 5)$
- 2) Line with y -intercept -2 and x -intercept 5
- 3) Line through $(5, 12)$ and $(8, 3)$
- 4) Line through $(-4, 3)$ and $(-2, -8)$
- 5) Line through $(4, 10)$ and $(8, 7)$

6+7) Lines with the following function tables:

x	y
3	7
4	11
5	15
6	19

x	y
2	-5
4	-8
6	-11
8	-14

1) Line with slope -1 through (-7, 5)

$$\begin{aligned}y &= -x + b \\5 &= -1(-7) + b \\5 &= 7 + b \\-7 & \quad -7 \\ \hline -2 &= b\end{aligned}$$

$$y = -x - 2$$

$(0, -2)$ $(5, 0)$
2) Line with y-intercept -2 and x-intercept 5

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

$$\frac{-2 - 0}{0 - 5} = \frac{-2}{-5} \\ \frac{2}{5}$$

3) Line through (5, 12) and (8, 3)

$$\frac{12-3}{5-8} = \frac{9}{-3} = -3$$

$$\begin{aligned}y &= -3x + b \\3 &= -3(8) + b \\3 &= -24 + b \\+24 & \quad +24 \\ \hline 27 &= b\end{aligned}$$

$$y = -3x + 27$$

4) Line through $(-4, 3)$ and $(-2, -8)$

5) Line through $(4, 10)$ and $(8, 7)$

6+7) Lines with
the following
function tables:

x	y
3	7
4	11
5	15
6	19

x	y
2	-5
4	-8
6	-11
8	-14

January 12, 2022

