

Warm up:

Find the slope of the line through the given points.

1) (9, 5) and (2, -8)

$$\frac{\Delta y}{\Delta x} = \frac{-8-5}{2-9} = \frac{-13}{-7} = \frac{13}{7}$$

2) (-1, -5) and (4, 2)

$$\frac{2-(-5)}{4-(-1)} = \frac{7}{5}$$

HW Solutions

Find the slopes of the following functions.

1) $y = 3x + 1$

x	$3x+1$	y
0	$3(0)+1$	1
1	$3(1)+1$	4

$$\frac{4-1}{1-0} = \frac{3}{1} = 3$$

2) $y = -2x - 5$

x	y
0	-5
1	-7

$$\frac{-7-(-5)}{1-0} = \frac{-2}{1} = -2$$

3) $y = \left(\frac{2}{3}\right)x$

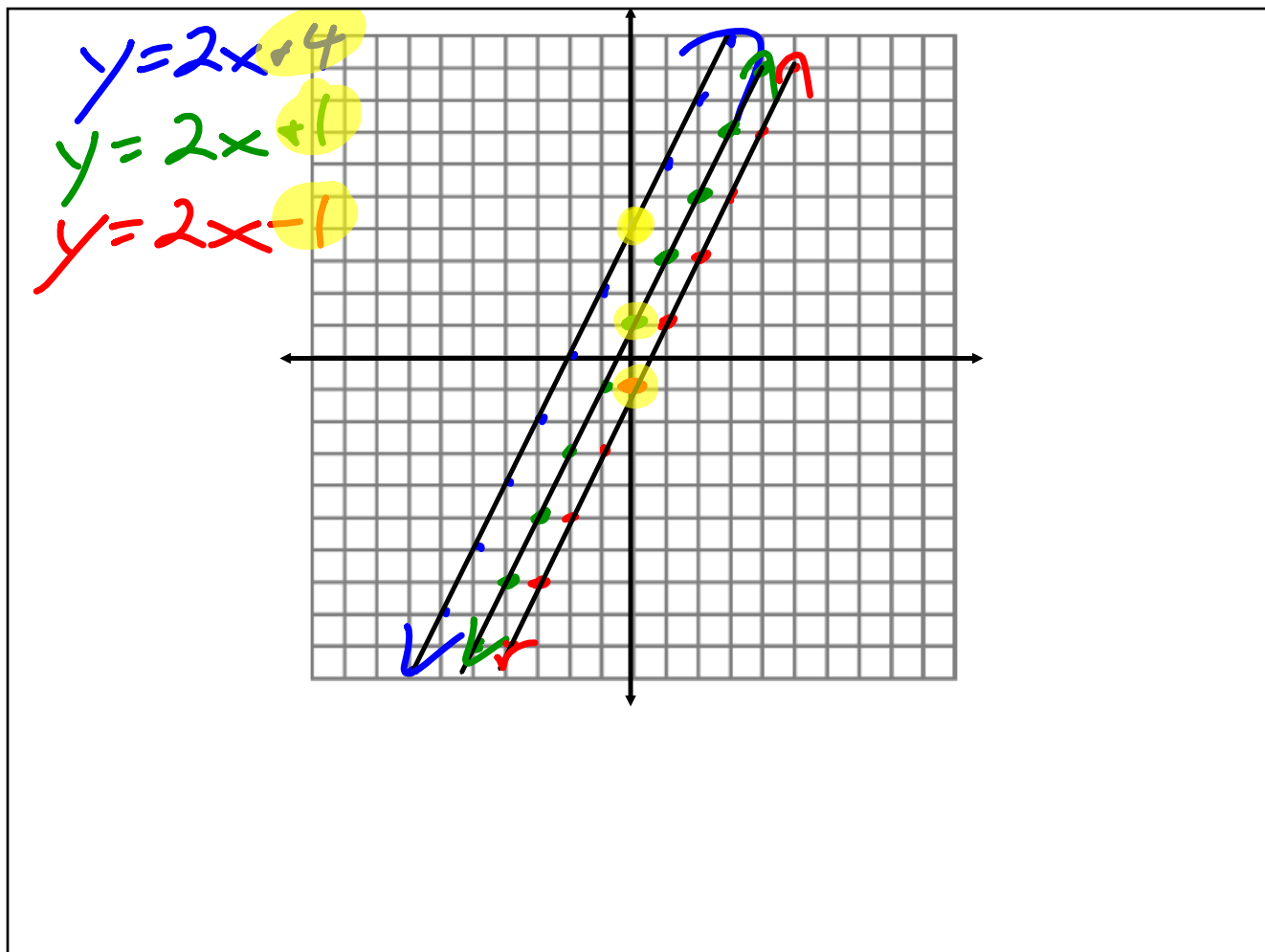
x	y
0	0
3	2

$$\frac{2-0}{3-0} = \frac{2}{3}$$

$$y = 2x + 4$$

$$y = 2x + 1$$

$$y = 2x - 1$$



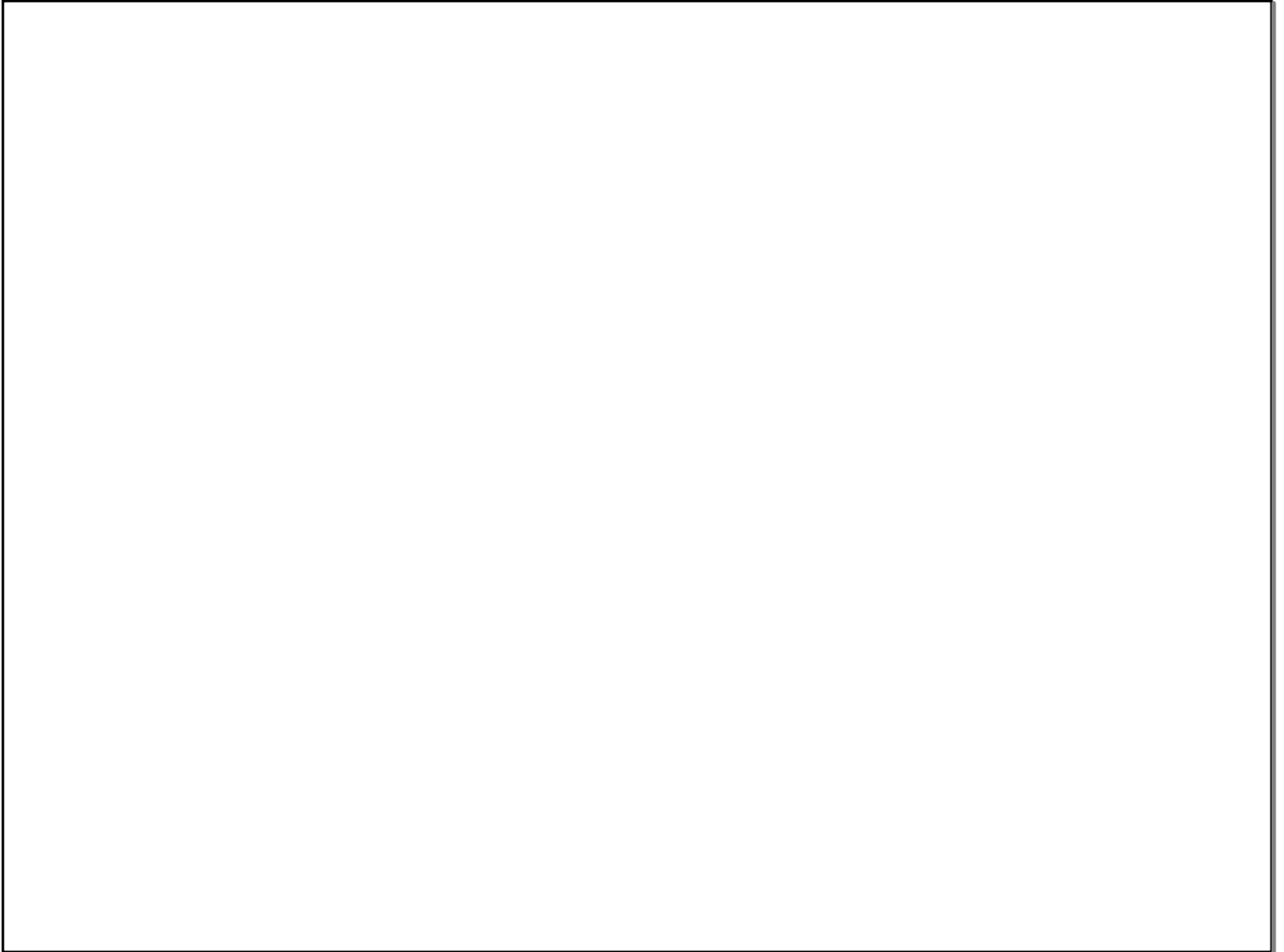
Slope-intercept Form

$$y = mx + b$$

m = slope

b = y-intercept
(the point at which the line
intersects the y-axis)

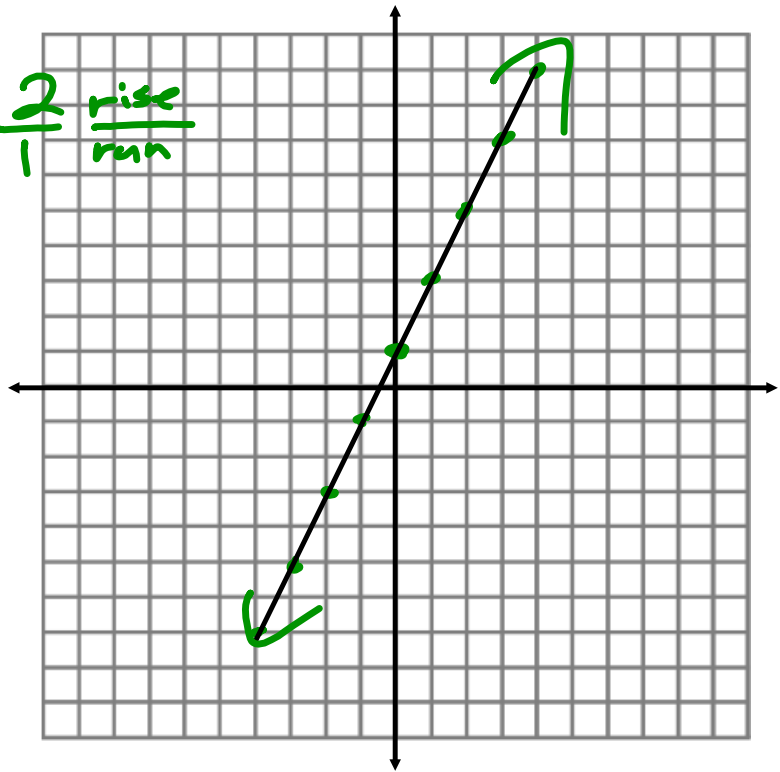
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$$y = 2x + 1$$

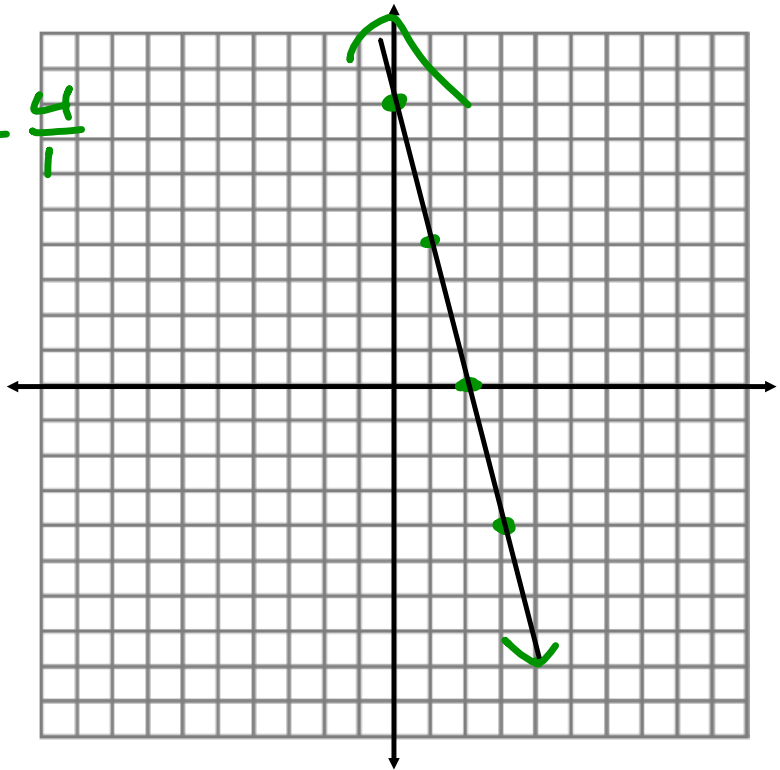
$$\text{slope} = 2 = \frac{2}{1} \frac{\text{rise}}{\text{run}}$$

$$y\text{-int} = 1$$



$$y = -4x + 8$$

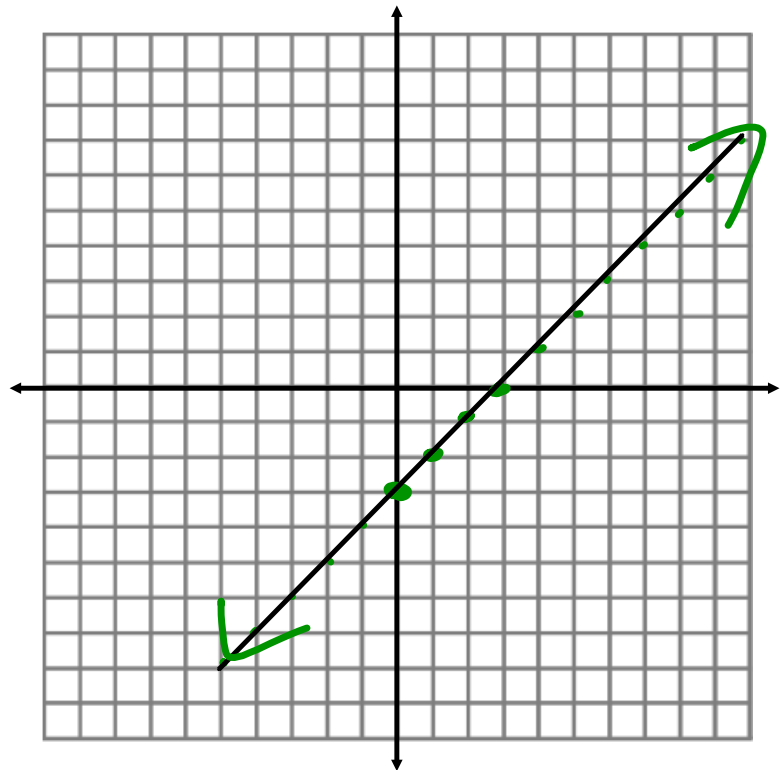
slope = $-4 = -\frac{4}{1}$
y-int = 8



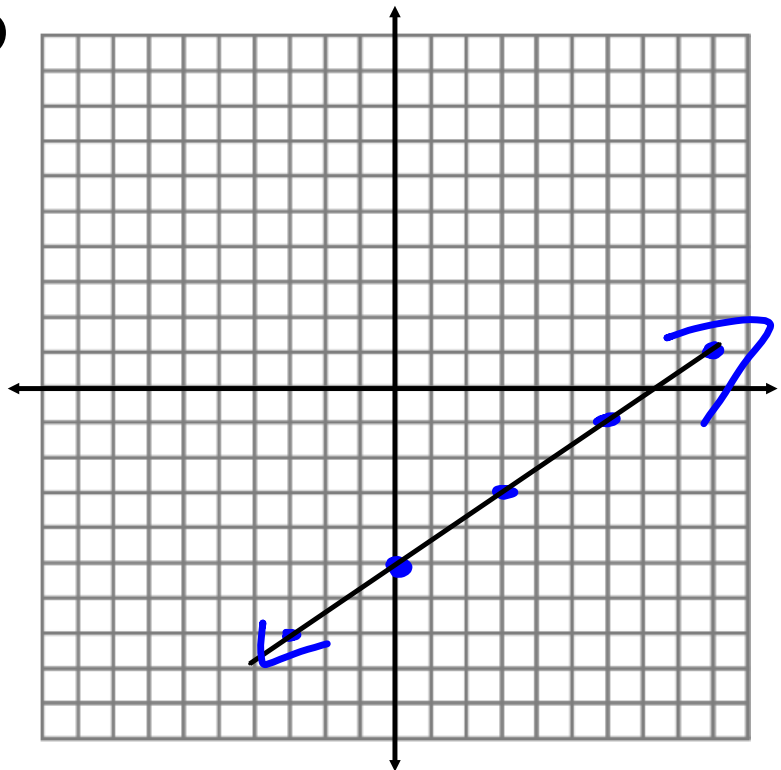
$$y = x - 3$$

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

$$b = -3$$

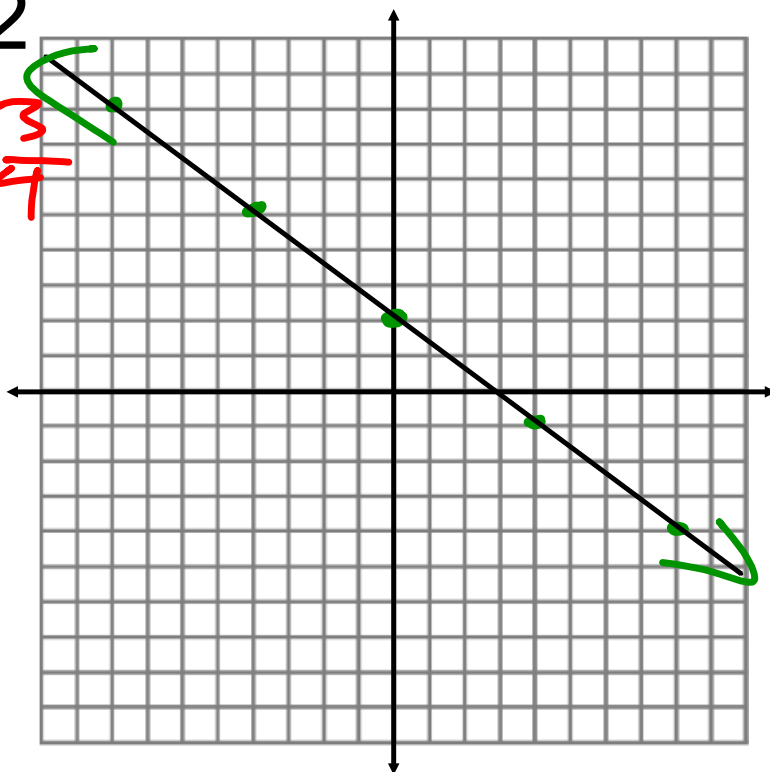


$$y = \left(\frac{2}{3}\right)x - 5$$



$$y = -(3/4)x + 2$$

$$\frac{-3}{4} = \frac{3}{-4} = -\frac{3}{4}$$



$$y = 5$$

$$y = 0x + 5$$

