

Algebra 1 4.2

Write an equation of a line given a slope and a point

Write an equation of a line given two points

slope

y-intercept

linear equation

slope-intercept form

constraints

* linear extrapolation

activity: speed dating

$$2 = -3 \cdot 5 + B$$

$$\begin{array}{rcl} 2 & = & -15 + B \\ +15 & & +15 \end{array}$$

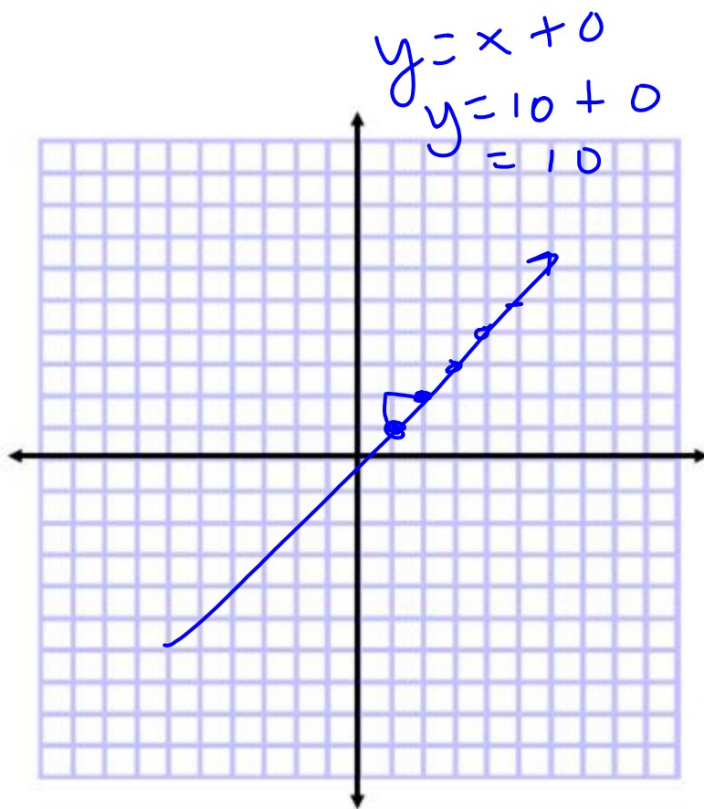
$$17 = B$$

$$y = -3x + 17$$

$$-2 = \frac{1}{2} \cdot 6 + B$$

$$\begin{array}{rcl} -2 & = & 3 + B \\ -3 & & -3 \end{array}$$
$$-5 = B$$

$$y = \frac{1}{2}x + -5$$
$$y = \frac{1}{2}x - 5$$



? if $x = 10$

$(1, 1) (2, 2)$

$$m = 1$$

$$1 = 1 \cdot 1 + B$$

$$1 = 1 + B$$

$$\begin{array}{r} -1 \quad -1 \\ \hline 0 = B \end{array}$$

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$$m = \frac{7}{5}$$

$$(0, 2) \quad (5, 9)$$

$$2 = \frac{7}{5} \cdot 0 + B$$

$$2 = 0 + B$$

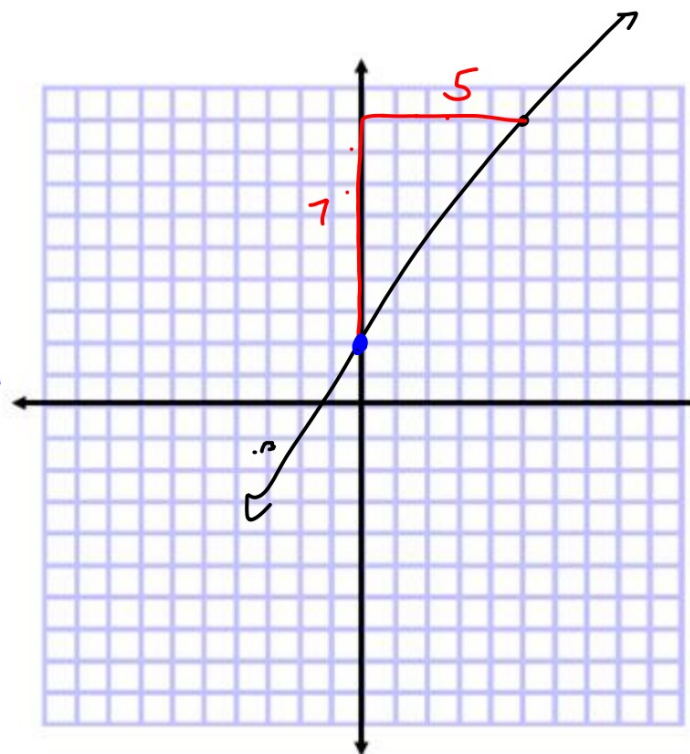
$$2 = B$$

$$y = \frac{7}{5}x + 2$$

Whiteboards

Write the equation of the line:

b. $(-4, -2)$ and $(-5, -6)$



→ Graph

Write an equation of the line that passes through each pair of points.

5. $(4, -3), (2, 3)$

$$y = -3x + 9$$

6. $(-7, -3), (-3, 5)$

$$y = 2x + 11$$

whiteboards

$$(-1,3) \quad (0,8)$$

$$y = 5x + 8$$

$$(-2,6) \quad (0,0)$$

