

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

$$y = mx + B$$


Cut & paste

$$\begin{array}{r} 5 = 3 \cdot -1 + B \\ 5 = -3 + B \\ +3 \quad +3 \\ \hline 8 = B \end{array} \quad y = 3x + 8$$

Whiteboards

Write the equation of the line:

by ~~(-4, -2)~~ and (-5, -6)

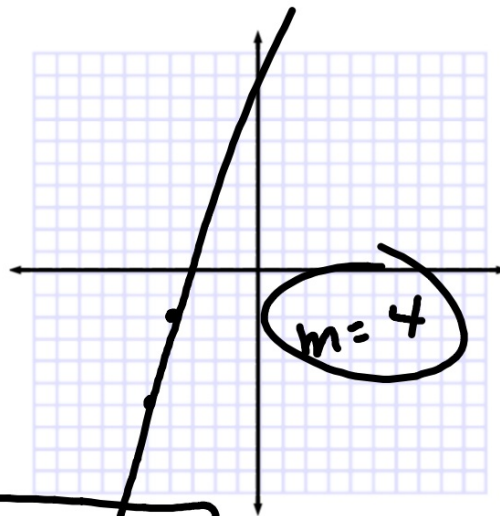
$$y = 4x + B$$

$$-2 = 4 \cdot -4 + B$$

$$-2 = -16 + B$$

$$\begin{array}{r} -2 = -16 + B \\ +16 \quad +16 \\ \hline 14 = B \end{array}$$

$$y = 4x + 14$$



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

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

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

$$y = -3x + B$$

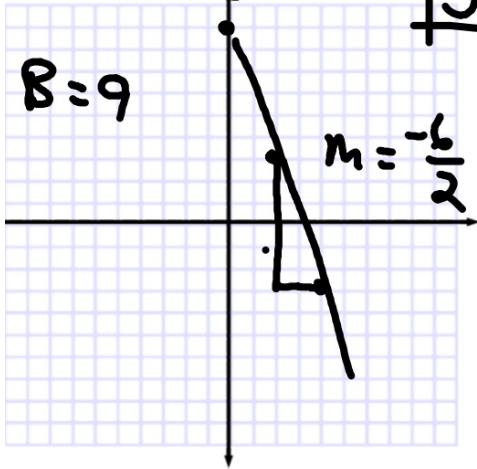
$$3 = -3 \cdot 2 + B$$

$$3 = -6 + B$$

$$y = -3x + 9$$

$$B = 9$$

$$m = \frac{-6}{2} = -3$$



$$m = 2$$

$$y = 2x + B$$

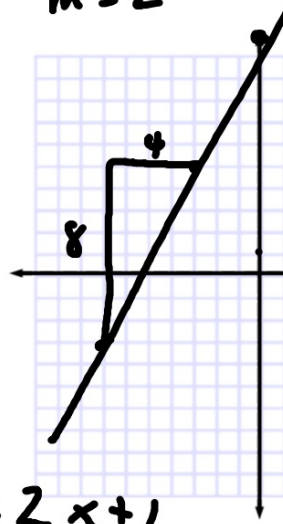
$$5 = 2 \cdot -3 + B$$

$$5 = -6 + B$$

$$11 = B$$

$$y = 2x + 11$$

$$y = 2x + 1$$



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