WRITING THE EQUATION OF A LINE THROUGH TWO GIVEN POINTS

Find an equation for the line that passes through the points (-1, 2) and (3, 4)

ELO PAPER EVIDENCE

(1) FIND 'm' $\frac{4-2}{3-(-1)} = \frac{2}{4} = \frac{1}{2} \Rightarrow m = \frac{1}{2}$

FIND 'b' USING $(-1, 2) \rightarrow b = y - mx$

$b = 2 - \frac{1}{2}(-1)$

$b = 2 + \frac{1}{2} = \frac{4}{2} + \frac{1}{2} = \frac{5}{2}$

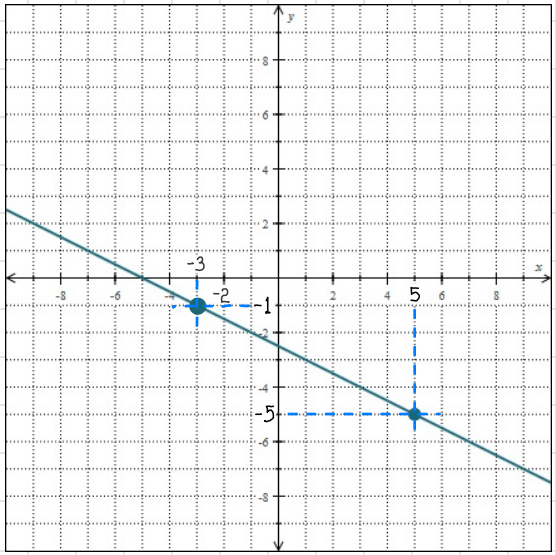
$b = \frac{5}{2}$

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

CHECK $4 = \frac{1}{2}(3) + \frac{5}{2}$

$4 = \frac{3}{2} + \frac{5}{2} = \frac{8}{2} = 4$

Find an equation for this line:



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(2) FIND 'm' $\frac{-5-(-1)}{5-(-3)} = \frac{-4}{8} = -\frac{1}{2} \Rightarrow m = -\frac{1}{2}$

FIND 'b' USING $(-3, -1) \rightarrow b = y - mx$

$b = -1 - \left[-\frac{1}{2}(-3)\right]$

$b = -1 - \left[\frac{3}{2}\right] = -1 - \frac{3}{2} = -\frac{2}{2} - \frac{3}{2} = -\frac{5}{2}$

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

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

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

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

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