

Find the equation of the line that is in between $(2, 5)$ and $(-1, -4)$. Show your work in the space provided. Then, explain your answer in a CEEL paragraph below.

$$\frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{-4 - 5}{-1 - 2} = \frac{-9 \div 3}{-3 \div 3} = \boxed{\frac{-3}{-1}}$$

$$y = mx + b$$

$$5 = \frac{3}{1} \left(\frac{2}{1} \right) + b$$

$$y = -3$$

$$y = \frac{3}{1}x - 1$$

$$\begin{array}{r} 5 = +6 + b \\ \cancel{6} \quad \cancel{+6} \\ \hline -1 = b \end{array}$$

$$-1 = \frac{3}{1} \left(\frac{0}{1} \right) - 1$$

$$0 - 1$$

$$-1 = -1 \quad \checkmark$$

The equation of the line that is between $(2, 5)$ & $(-1, -4)$ is $y = 3x - 1$. The slope of the line is positive 3 and it relates to the coordinates point because not only does it pass through the points but it's also the steepness of those two points. I computed the slope by subtracting $y_2 - y_1$ (y -values) and $x_2 - x_1$ (x -values) and then dividing the slope, the y -intercept is $(0, -1)$ because I substituted $x = 0$ & $y = -1$ and the resulting y matched which means it's true.

expressions