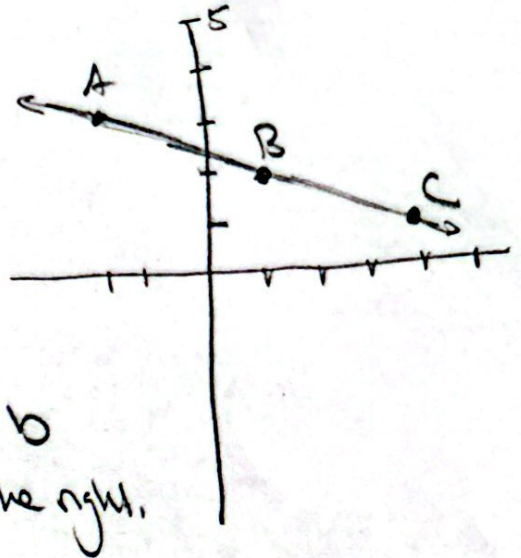


More Lines Activity

#2) Find the equation of the line graphed on the right.



Let's use the slope-intercept form: $y = mx + b$.

This means we need to find m and b to describe the graphed line on the right.

Recall $m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x}$. We see several points (A, B, C) on the line so can use any pair of those to compute m .

$$m = \frac{\text{y coord of A} - \text{y coord of C}}{\text{x coord of A} - \text{x coord of C}} = \frac{3 - 1}{-2 - 4} = \frac{2}{-6} \text{ or } -\frac{1}{3}$$

The b value is the y -intercept which is harder to read as b is not an integer here.

Since the point $B = (1, 2)$ is on the graph of the line

if $x = 1$ and $y = 2$ we know

So we can solve for b with algebra. (§9.1)

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

$$2 = -\frac{1}{3} + b$$

$$+\frac{1}{3} \quad +\frac{1}{3}$$

$$\frac{7}{3} = b$$

Thus our equation is $y = -\frac{1}{3}x + \frac{7}{3}$