

Module 5 Lesson 3:

Are You Ready? Possible Solutions

1. a. Slope is a measure of the steepness of a line segment between two points. Slope is calculated using the following formulas:

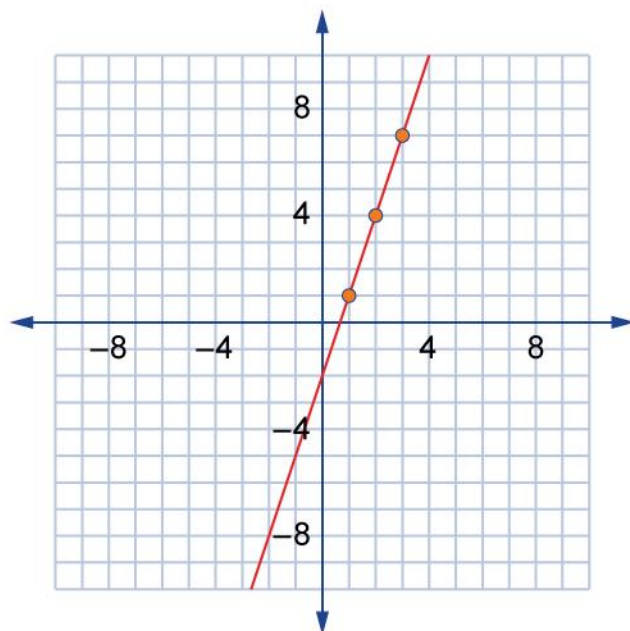
- $\text{slope} = \frac{\text{rise}}{\text{run}}$
- $\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$

- b. An intercept is the point where the graph intersects an axis of the coordinate plane.

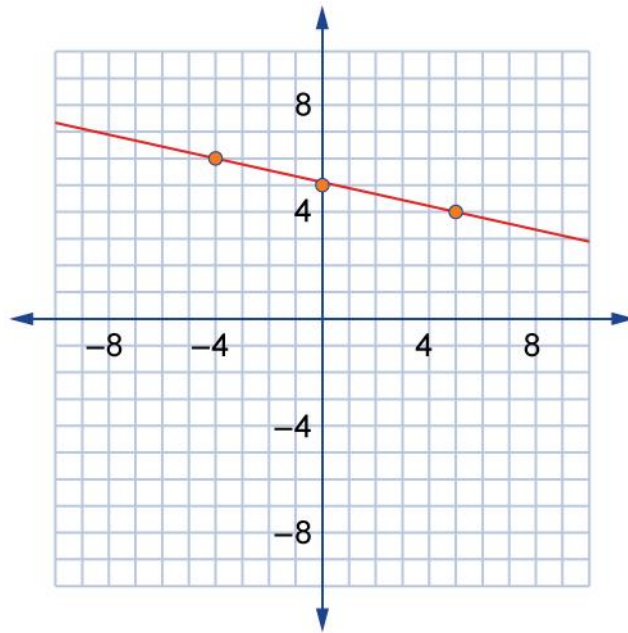
2. The student's table should look like the following.

Graphs	Slope	y-intercept
A	0	(0, 2)
B	undefined	There is no y-intercept.
C	-3	(0, -2)
D	$\frac{1}{3}$	(0, 2)

3. a.



b.



4. a. domain: $\{x \mid 1 \leq x \leq 5, x \in \mathbb{R}\}$; range: $\{y \mid 3 \leq y \leq 15, y \in \mathbb{R}\}$

b. rise = vertical units between A and B = 3 km
run = horizontal units between A and B = 1 h

$$\begin{aligned}\text{slope} &= \frac{\text{rise}}{\text{run}} \\ &= \frac{3 \text{ km}}{1 \text{ h}} \\ &= 3 \text{ km/h}\end{aligned}$$

c. The slope represents the speed of the walker.

5. a.
$$\begin{aligned}n + 13 &= 2m \\ n + 13 - 13 &= 2m - 13 \\ n &= 2m - 13\end{aligned}$$

b.
$$\begin{aligned}3m - 8 - 4n &= 0 \\ 3m - 8 - 4n + 4n &= 0 + 4n \\ 3m - 8 &= 4n \\ 4n &= 3m - 8 \\ \frac{4n}{4} &= \frac{3m}{4} - \frac{8}{4} \\ n &= \frac{3}{4}m - 2\end{aligned}$$