

Lesson 2-6: Connect Proportional Relationships and Slope

1. Sample answer: The slope of a line is the ratio of the rise to the run, or the change between two points on the line in y-coordinates divided by the change in x-coordinates.
2. Sample answer: The slope is a unit rate when written with a “run” of 1.
3. Sample answer: The rise and the run are in a proportional relationship. The ratio $\frac{\text{rise}}{\text{run}}$ will be the same for any two points on the line.
4. 3
5. a. $\frac{5}{3}$
b. Sample answer: The model is 3 cm for every 5 feet of the original airplane.
6. $\frac{150-50}{6-2}$; $\frac{100}{4}$; 25
25
7. $\frac{20}{4}$; 5
5
8. 2; Sample answer: I know the graph is a proportional relationship since it goes through the origin. I can use the constant of proportionality to find $\frac{y}{x} = 2$.
9. -2
10. -2
11. a. 10
b. Sample answer: Natalia burns 10 Calories per minute.
12. a. 64 miles per hour
b. Sample answer: She found the change in the x-coordinates over the change in the y-coordinates.
13. 22 cm; slope: $\frac{\text{rise}}{\text{run}} = \frac{11}{5}$, which is also $\frac{y}{10}$.
14. a. $\frac{7}{5}$
b. B