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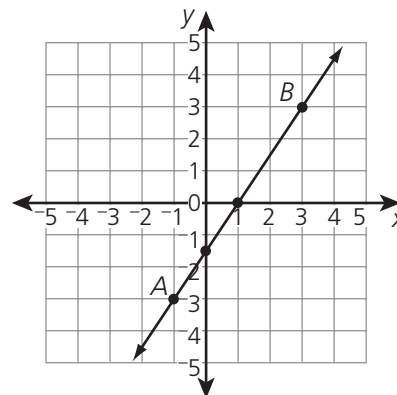
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Slope and Intercept

The “steepness” of the graph of a linear equation is its **slope**. To calculate slope, divide its rise by its run. The **rise** is the difference in y -values of two points. The **run** is the difference in x -values of the same points.

Read this problem. Answer each question.

What is the slope of the graphed line?



- 1 List the ordered pairs of the labeled points.

A _____ B _____

- 2 Using points A and B , subtract the y -values to calculate the rise of the graph.

- 3 Using the same points, subtract the x -values to calculate the run. Use the points in the **same order** as in problem 2. _____

- 4 Calculate the slope of the line using the values of rise and run you found in problems 2 and 3. _____

- 5 The **intercept** is the point where the graph crosses an axis. What are the coordinates of the x -intercept? _____ The y -intercept? _____

- 6 Use the x - and y -intercepts to calculate the slope of the line. _____
How does this compare with your answer to problem 4? _____

- 7 How does slope show the **rate of change** in the graph? Explain. _____



INDEPENDENT PRACTICE

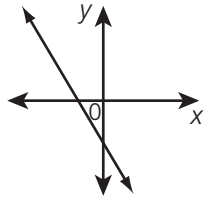
Answer each question.

- 8 Can the slope of a line be negative or zero? Explain and give an example of each.

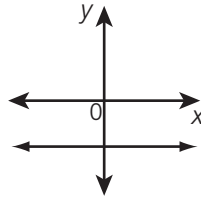
- 9 The slope of a line is **undefined** if the x -values of the points are all the same. Explain.

Describe the slope of each graph as *positive*, *negative*, *zero*, or *undefined*.

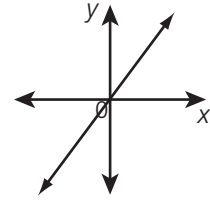
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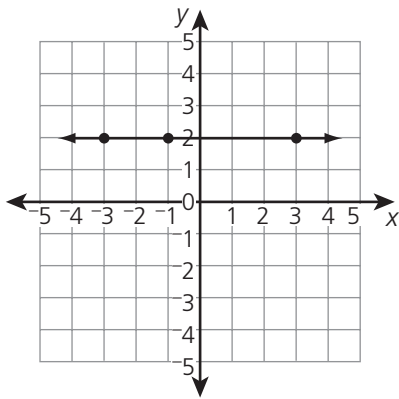


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Find the slope of each line using rise and run.

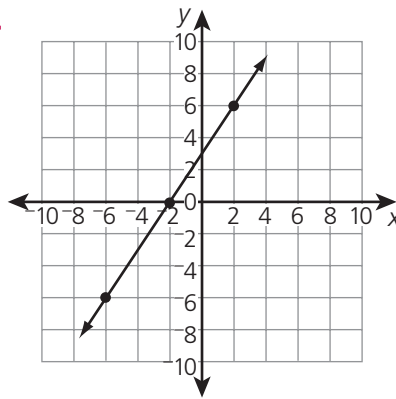
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rise: _____ run: _____

slope: _____ ÷ _____ = _____

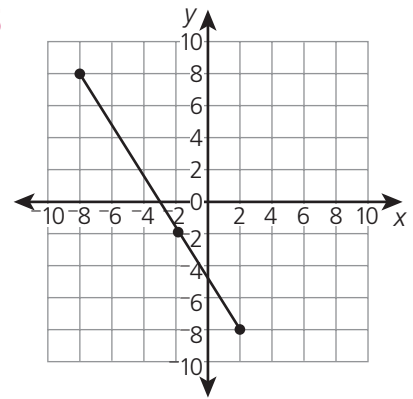
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rise: _____ run: _____

slope: _____ ÷ _____ = _____

15

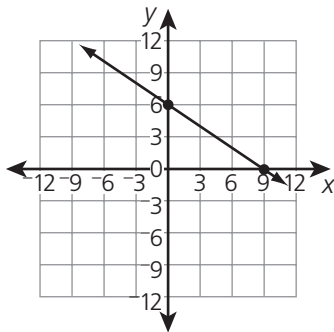


rise: _____ run: _____

slope: _____ ÷ _____ = _____

Find the slope of each line using the x- and y-intercepts.

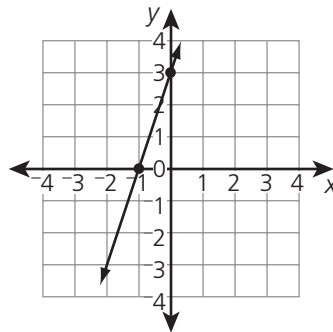
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rise: _____ run: _____

slope: _____ ÷ _____ = _____

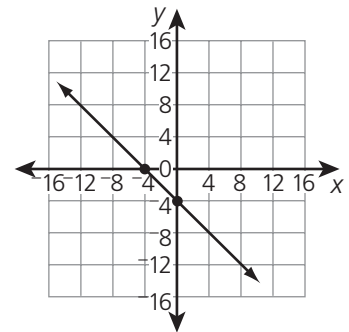
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rise: _____ run: _____

slope: _____ ÷ _____ = _____

18



rise: _____ run: _____

slope: _____ ÷ _____ = _____

Find the slope of a line through the given points.

19 (-1, 4) and (1, -2)

20 $(\frac{1}{2}, 0)$ and $(\frac{3}{2}, \frac{1}{4})$

21 (200, -50) and (750, -50)
