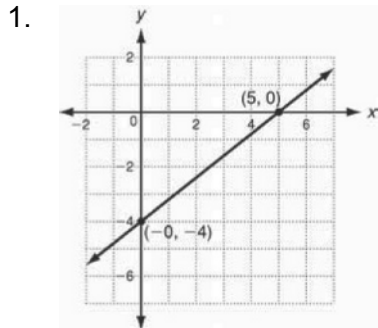


LESSON
5-3

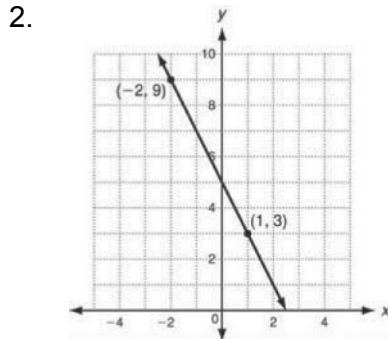
Interpreting Rate of Change and Slope

Practice and Problem Solving: A/B

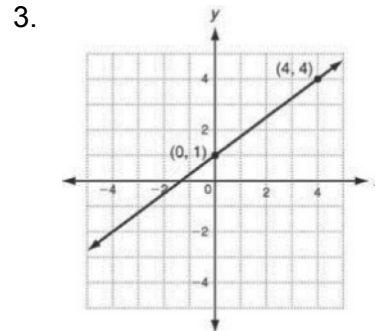
Find the rise and run between the marked points on each graph. Then find the rate of change or slope of the line.



rise = _____ run = _____
slope = _____



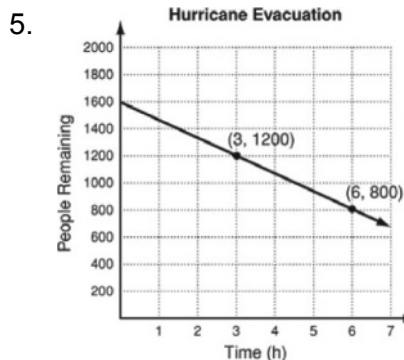
rise = _____ run = _____
slope = _____



rise = _____ run = _____
slope = _____

Find the slope of each line. Tell what the slope represents.





Solve.

6. When ordering tickets online, a college theater charges a \$5 handling fee no matter how large the order. Tickets to a comedy concert cost \$58 each. If you had to graph the line showing the total cost, y , of buying x tickets, what would the slope of your line be? Explain your thinking.

LESSON 5-3

Practice and Problem Solving: A/B

- rise = 4, run = 5, slope = $\frac{4}{5}$
- rise = -6, run = 3, slope = -2
- rise = 3, run = 4, slope = $\frac{3}{4}$
- slope = $\frac{3}{2}$; hourly salary increases \$3 every 2 years, or \$1.50 per year.
- slope = $-\frac{400}{3}$; the number of people remaining decreases by 400 every 3 hours, or about 133 per hour.
- The slope would be 58 since \$58 is added to the total cost as the number of tickets bought increases by 1.

Practice and Problem Solving: C

- 4
- $-\frac{17}{7}$
- $\frac{11}{3}$
- 2
- 2
- $\frac{3}{5}$
- 9
- 0
- $\frac{1}{4}$
- $\frac{1}{11}$
- $\frac{2}{3}$
- According to the formula, slope = $\frac{6-2}{3-3} = \frac{4}{0}$. But division by 0 is not possible. So, slope is undefined for a vertical line.

- A 7% grade means that a road rises 7%, or $\frac{7}{100}$. So, the slope of the road is $\frac{7}{100}$.

For a driver, this means that the road rises (or falls) 7 feet for every 100 feet in horizontal distance.

- If the two intercepts had represented two different points, Ariel could graph the points and find the slope. Since that was impossible, the intercepts must have represented the same point. This can only happen if both intercepts are 0. The line passes through (0, 0).

Practice and Problem Solving: Modified

- rise = 1, run = 3, slope = $\frac{1}{3}$
- rise = 2, run = 1, slope = 2
- rise = -3, run = 2, slope = $-\frac{3}{2}$
- zero
- negative
- undefined
- 35 mph; 12 mph; 11 mph; 39 mph; 0.5 mph

Reading Strategies

- 4
- Possible answer: (-1, 6)
- 2
- (-4, 1) and (6, 5)
- $\frac{2}{5}$
- 0
- horizontal

Success for English Learners

- 4
- 5
- Sample Answer: Graph the two given points and connect them with a line. Find the y-coordinate when the x-coordinate is 80. There will be 1,500,000 ft³ of water in the reservoir.