

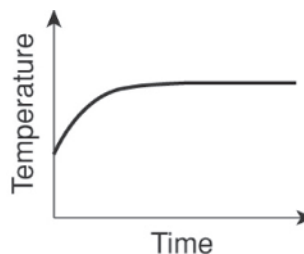
LESSON
6-4

Analyzing Graphs

Practice and Problem Solving: A/B

Use the situation for 1–2.

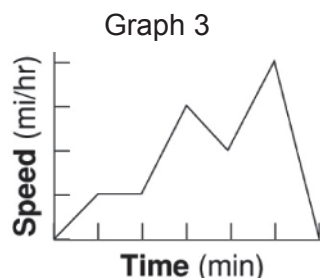
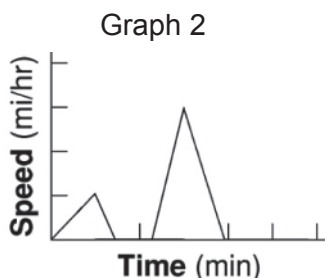
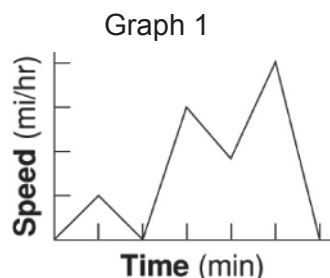
Dan is going to fix dinner. He turns on the oven. The graph shows the temperature over time.



1. Why does the graph not start at zero?

2. What does it mean when the graph flattens out?

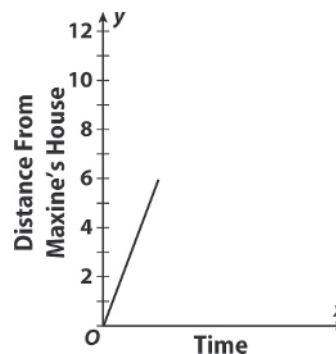
Tell which graph corresponds to each situation below.



3. A car eases into traffic and then slows down and stops at an intersection. Next it enters the highway and adjusts speed to traffic until it exits and stops at home.
4. A car eases into traffic, maintains speed for a short time. Next it enters the highway and adjusts speed to traffic until it exits and stops at home.
5. Which graph did you not choose for Exercise 3 or Exercise 4? Write a description that describes what happened in that graph.

Use the graph at the right for 6–7.

6. Maxine bikes 6 miles from home. She then rests for a short time before biking 4 more miles. After a short rest, she bikes home. Complete the graph so it shows the distance Maxine is from home compared to the time.
7. Find the total number of miles Maxine biked.



LESSON 6-3

Practice and Problem Solving: A/B

1. 5; 2; The slope of $f(x)$ is greater than the slope of $g(x)$.
2. $-3, -1$; The y -intercept of $f(x)$ is 2 less than the y -intercept of $g(x)$.
3. Connor: 200 ft; -10 ft/min; Pilar: 242 ft; -8 ft/min; Sample answer: Pilar started higher than Connor and climbed down more slowly than Connor did. It will take Pilar longer to get down the canyon wall.

Practice and Problem Solving: C

1. f slope: -3 , f y -intercept: 5; g slope: -3 , g y -intercept: 1; The graphs of the two functions are parallel lines with $f(x)$ 4 units above $g(x)$.
2. The slope of $f(x)$ is $\frac{1}{3}$, and the slope of $g(x)$ is -3 . Both y -intercepts are -2 . The graphs are perpendicular and intersect at $(0, -2)$.
3. Jing: \$12.50, \$0.50/year; Max: \$10, \$1/year; Sample answer: Jing starts at a higher wage, but gets a smaller raise each year. They both must work 6 years for Max to make more than Jing.

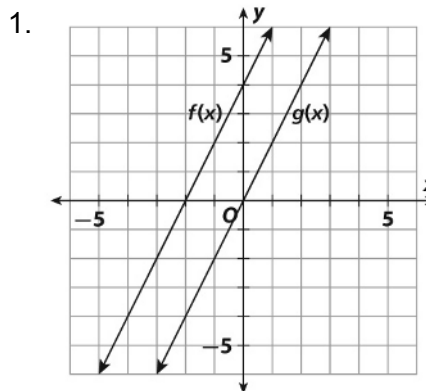
Practice and Problem Solving: D

1. f slope = 1; g slope = 2; f y -intercept = -1 ; g y -intercept = 4; The slope of $f(x)$ is less steep than the slope of $g(x)$. Both slopes are positive. There are 5 units between the y -intercepts.
2. f slope = -2 ; g slope = -2 ; f y -intercept = 2; g y -intercept = 0; The slope of both functions is the same and is negative. The lines are parallel. There are 2 units unit between the y -intercepts.
3. f slope = -1 ; g slope = 3; f y -intercept = 4; g y -intercept = 0; The slope of $f(x)$ is less than the slope of $g(x)$. One slope is negative and one slope is positive, so the lines intersect. There are 4 units between the y -intercepts.

Reteach

1. f slope = $-\frac{1}{2}$; g slope = $-\frac{3}{2}$;
 f y -intercept = -2 ; g y -intercept = 1; The slope of $f(x)$ is less steep than the slope of $g(x)$. Both slopes are negative. There are 3 units between the y -intercepts.
2. f slope = 6; g slope = -3 ; f y -intercept = -1 ; g y -intercept = 0; The slope of $f(x)$ is greater than the slope of $g(x)$. There is 1 unit between the y -intercepts.

Reading Strategies



2. The slopes of $f(x)$ and $g(x)$ are the same. Both slopes are positive.
3. There are 4 units difference in the y -intercepts.

Success for English Learners

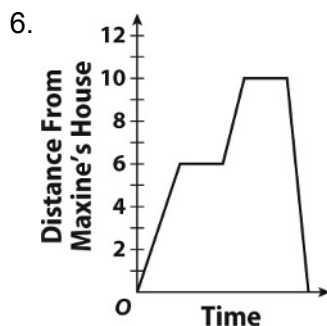
1. Choose two ordered pairs. Substitute the values into the slope formula:
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$
2. Answers will vary. Discuss with students that their choice of which representation to use may depend on what information they are asked to find.

LESSON 6-4

Practice and Problem Solving: A/B

1. The oven would be at room temperature, not zero.
2. The oven has reached the desired temperature and is maintaining that temperature.
3. Graph 1
4. Graph 3

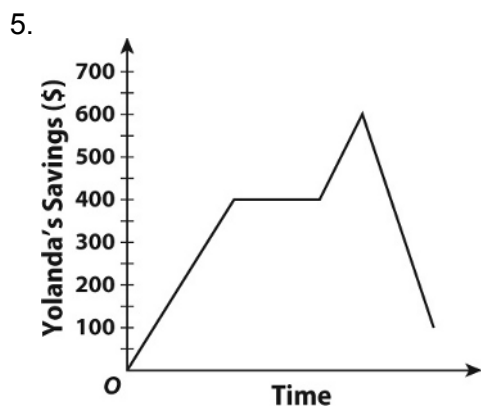
5. Graph 2. Sample answer: The car eases into traffic and has to stop. After a while, it starts up fast and then stops.



7. 20 mi

Practice and Problem Solving: C

- Graph C
- Graph A
- Graph B; Sample answer: Drives around and to the gas station. Fills his gasoline tank. Drives around some more.
- Accept reasonable answers. Sample answer: Jenny walks to the library. She stays there a while and walks on to the beach. She reads for a while on the beach. Then she walks back toward home and stops at the snack shop. Finally, she walks home.

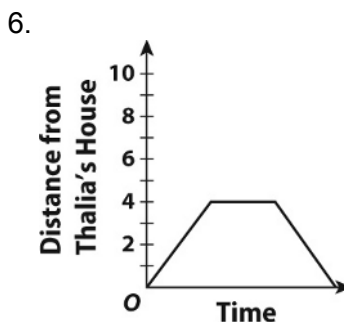


6. \$100

Practice and Problem Solving: D

- The water temperature went down after the ice was put in.
- The water has been cooled and reached a steady temperature.
- Graph B
- Graph C

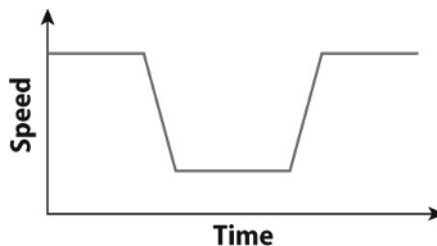
5. Graph A. Sample answer: Alexia jogs to the park. Then she turns around and jogs home.



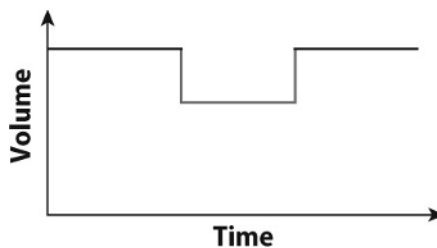
7. 8 miles

Reteach

- Sample answer: I saved some money. I left it in the bank for a while. Then I took it all out of the bank to buy a bike.
- Sample answer: I saved money until I had enough to buy a gym membership. Then I stopped saving and started paying for the gym membership until I ran out of money.
- Sample answer:



4. Sample answer:



Reading Strategies

Accept reasonable answers. Sample answer: The gates opened and a lot of people came to the park. It started raining and about half the people went home. In the afternoon and evening the number of people slowly decreased as people went home.