

Lesson 4.1 • Interpreting Graphs

Name _____ Period _____ Date _____

1. Describe the pattern of the graph of each of the following situations as the graphs are read from left to right as *increasing*, *decreasing*, *increasing and then decreasing*, or *decreasing and then increasing*.
 - a. The height of a child at birth and on each birthday from age 1 to age 6
 - b. The balance that is due on a home mortgage from the date the house was purchased until it was sold 8 years later
 - c. The height of a ball that is thrown upward from the top of a building from the time it is thrown until it hits the ground
 - d. The monthly electric bill for August of one year to July of the next year for a family living in Atlanta, Georgia, in a home with central air conditioning. (Assume that July and August are the hottest months and that the family uses natural gas for heating.)
 - e. The value of a car from the time it was purchased as a new car to the time it was traded in 5 years later
2. For each of the situations described in Exercise 1, describe the real-world meaning of the vertical intercept of the graph.
3. Sketch a graph to match each description.
 - a. Decreasing steadily throughout, first slowly and then at a faster rate
 - b. Increasing rapidly at a constant rate, then suddenly becoming constant, then decreasing rapidly at a constant rate
4. Sketch what you think is a reasonable graph for each relationship described. In each situation, identify the variables and label your axes appropriately.
 - a. The money you earned in a week compared to the number of hours you worked in the week
 - b. The temperature of a hot drink sitting on your desk
 - c. Your speed as you cycle up a hill and down the other side
 - d. The amount of postage charged for different weights of letters
 - e. The intensity of light available for reading compared to your distance from the reading lamp
 - f. The height of a hot dog wrapper after it is released by your little brother from the top row of a football stadium