

Challenge: Skills and Applications

For use with pages 273–278

In Exercises 1–4, use the following information.

According to the census, the population of the United States was about 151 million in 1950 and 249 million in 1990.

1. Find the slope of the line through the two points defined by the population data. What does this slope tell you?
2. Write a linear equation to model the population (in millions) of the United States t years after 1950.
3. Use the equation from Exercise 2 to find the population of the United States in 1970. According to the 1970 census, the population was about 203 million. How close was the amount found with the model to the actual amount? Was this a good approximation? Explain.
4. Use the equation from Exercise 2 to predict the population of the United States in 2010.

In Exercises 5–7, use the following information.

In 1990, people in the United States spent about \$285.7 billion on recreation. In 1995, they spent \$402.5 billion.

5. Write a linear equation to model the amount (in billions of dollars) spent on recreation t years after 1990.
6. Use the equation from Exercise 5 to find the amount that people in the United States spent on recreation in 1996. The actual amount was \$431.1 billion. How close was the amount found with the model to the actual amount? Do you think this is a good approximation? Explain.
7. Use the equation from Exercise 5 to predict the amount people in the United States will spend on recreation in 2000. Do you think the prediction is very accurate? Explain.