

Chapter 6 Lesson 1 Problem-Solving Practice

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Powers and Exponents

1. OLYMPICS The first Olympics were held in Greece more than $7 \times 7 \times 7 \times 7$ years ago. Write this product using an exponent. Then find its value.

2. RIDES The fastest roller coaster in the world is located in New Jersey. It travels 2^7 miles per hour. Write 2^7 as a product of the same factor. Then find the value.

3. BASEBALL With a total of more than 3^6 home runs, Barry Bonds holds the major league record for the most home runs. About how many home runs did Barry Bonds have?

4. PLANETS The table shows facts and data about the planets. Write each exponent as a product of the same factor. Then find each value.

Diameter of the moon (mi)	3^7
Diameter of largest planet, Jupiter (mi)	17^4
Hottest planet, Venus ($^{\circ}\text{F}$)	29^2
Coldest planet, Pluto ($^{\circ}\text{F}$)	7^3

5. STATES The table shows the approximate area of the largest and smallest states in the United States.

State	Area (mi^2)
Alaska	87^3
Rhode Island	39^2

Write each power as a product of the same factor. Then find the value.

6. PARKS Yellowstone National Park is known for its 10^4 hot springs and geysers, which is more than anywhere else in the world. Write 10^4 as a product of the same factor. How many hot springs and geysers are in Yellowstone National Park?