NAME _____ DATE _____ PERIOD _____

Lesson 6 Homework Practice

Changes in Dimensions

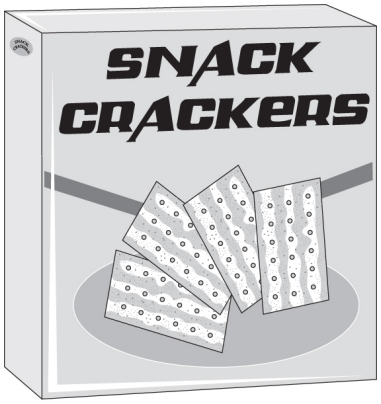
1. The surface area of a cube is 400 square millimeters. What is the surface area of a similar cube that is larger by a scale factor of 3?

2. The volume of a candle is 8 cubic inches. What is the volume of a similar candle that is larger by a scale factor of 1.5?

3. The volume of a suitcase is 4.2 cubic feet. What is the volume of a suitcase that is smaller by a factor of 0.9? Round to the nearest tenth.

4. A deli owner uses 215 square centimeters of plastic wrap to cover a wedge of cheese. How many square centimeters of plastic wrap would she need to cover a wedge of cheese with a similar shape that is smaller by a scale factor of $\frac{1}{2}$? Round to the nearest tenth.

5. A box of crackers has a volume of 48 cubic inches. What is the volume of a similar box that is smaller by a scale factor of $\frac{2}{3}$?



6. The surface area of a pyramid is 88 square feet.

a. What is the surface area of a similar pyramid that is larger by a scale factor of 5?

b. What is the surface area of a similar pyramid that is larger by a scale factor of 8?

c. What is the surface area of a similar pyramid that is smaller by a scale factor of $\frac{1}{10}$? Round to the nearest tenth.

7. A cylinder was enlarged by a scale factor of 4. The new volume is 2,240 cubic units. What was the volume of the original cylinder?