

1. The following are similar cylindrical vegetable cans.

a. What is the ratio of the sides?

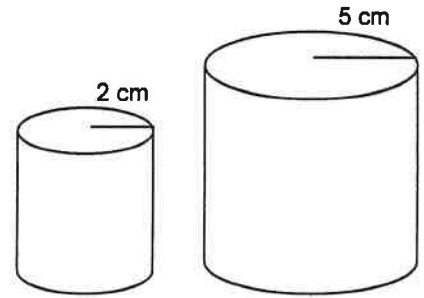
b. What is the ratio of the surface areas?

c. What is the ratio of the volumes?

d. If the height of the small can is 10 cm, find the height of the large can.

e. If the surface area of the large can is 100 cm^2 , find the surface area of the small can.

f. If the volume of the small can is 50 cm^3 , find the volume of the large can.



2. The following are similar rectangular packing boxes.

a. What is the ratio of the sides?

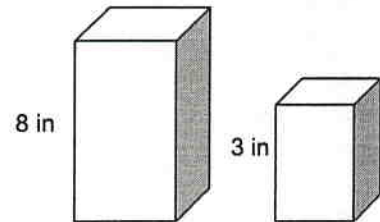
b. What is the ratio of the surface areas?

c. What is the ratio of the volumes?

d. If the large box holds 20 in^3 of packing, how much packing does the small box hold?

e. If the small box has a width of 4 in, what is the width of the large box?

f. If the small box has a top area of 80 in^2 , what is the top area of the large box?



3. Two similar punch bowls have a scale factor of 3:4. The amount of lemonade to be added is proportional to the volume. How much lemonade does the smaller bowl require if the larger bowl requires 64 fluid ounces?

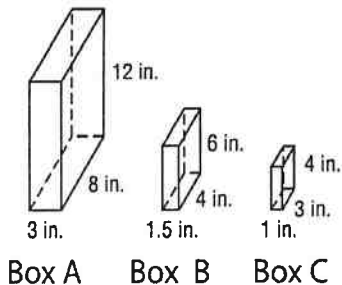
11-6 Word Problem Practice

Similar Solids

1. PACKAGING The Homemade Soup Company sells two sizes of soup cans. One can has a diameter of 3 inches and a height of 5 inches. The larger can has a diameter of 4 inches and a height of 6 inches. Are the two cans similar? Explain.

2. WATER TANKS Morgan Plumbers installed a cylindrical water tank that is 5.4 feet tall, has a radius of 2.1 feet and holds about 540 gallons of water. A similarly shaped water tank has a radius of 1.5 feet. How much water will the smaller tank hold?

3. CEREAL BOXES Tom is given three cereal boxes, as shown below. He needs to determine which two are similar. Which boxes are similar, and what is the scale factor from the small box to the large?



4. ICE SCULPTURE Larry is carving an ice swan for a wedding. His model is one-sixth the size of the actual carving. If his model weighs 3 pounds, how much will the actual carving weigh?

PACKAGING For Exercises 5–7, use the following information.

Lisa was at the movies and wanted to buy some popcorn. The popcorn was sold in two similarly shaped cylindrical containers. The small container cost \$4.50 and the large container cost \$6.00. The small container is 8 inches tall and has a diameter of 5 inches. The large container is 10 inches tall.

5. What is the diameter of the large container?

6. What are the volumes of the large and small containers?

7. Which size popcorn is the better deal? Explain.