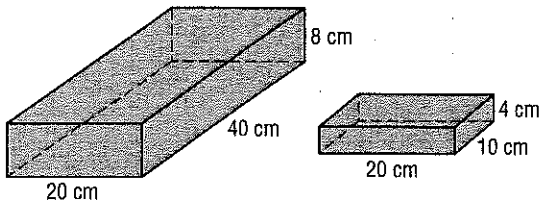


13-4 Skills Practice

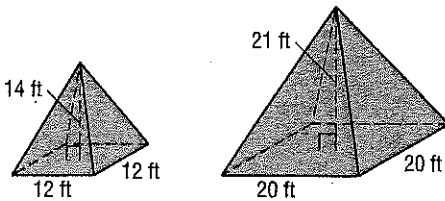
Congruent and Similar Solids

Determine whether each pair of solids are *similar*, *congruent*, or *neither*.

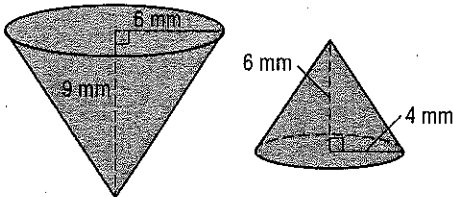
1.



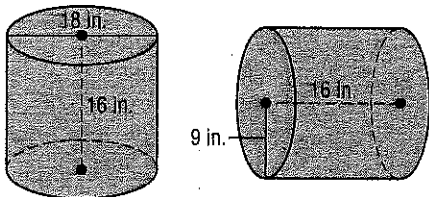
2.



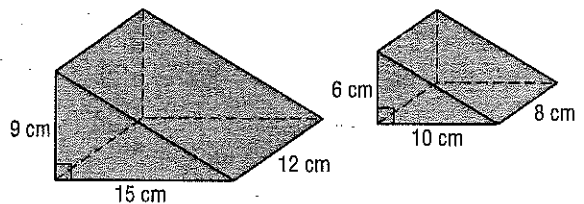
3.



4.



For Exercises 5-8, refer to the two similar prisms.



5. Find the scale factor of the two prisms.

6. Find the ratio of the surface areas.

7. Find the ratio of the volumes.

8. Suppose the volume of the larger prism is 810 cubic centimeters. Find the volume of the smaller prism.

9. Determine whether each statement is *always*, *sometimes*, or *never* true.

- a. Two cubes are similar.
- b. Two cones are similar.
- c. Two cylinders in which the height is twice the diameter are similar.
- d. Two cylinders with the same volume are congruent.
- e. A prism with a square base and a square pyramid are similar.
- f. Two rectangular prisms with equal surface areas are similar.
- g. Nonsimilar solids have different volumes.
- h. Two hemispheres with the same radius are congruent.

10. Supply the missing ratios.

- a. If the ratio of the diameters of two spheres is 3:1, then the ratio of their surface areas is _____, and the ratio of their volumes is _____.
- b. If the ratio of the radii of two hemispheres is 2:5, then the ratio of their surface areas is _____, and the ratio of their volumes is _____.
- c. If two cones are similar and the ratio of their heights is $\frac{4}{3}$, then the ratio of their volumes is _____, and the ratio of their surface areas is _____.
- d. If two cylinders are similar and the ratio of their surface areas is 100:49, then the ratio of the radii of their bases is _____, and the ratio of their volumes is _____.