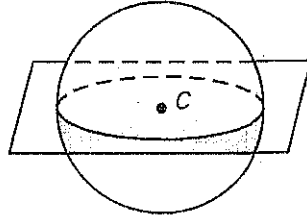


LESSON  
6.9**Practice** *continued*

In Exercises 12–15, use the diagram. The center of the sphere is  $C$  and its circumference is  $17\pi$  feet.

12. What is half of the sphere called?



13. Find the radius of the sphere.
14. Find the diameter of the sphere.
15. Find the surface area of half of the sphere.

Find the radius of a sphere with the given surface area  $S$ .

16.  $S = 324\pi \text{ cm}^2$

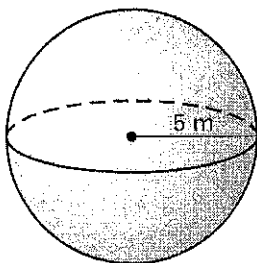
17.  $S = 4\pi \text{ ft}^2$

18.  $S = 163.84\pi \text{ m}^2$

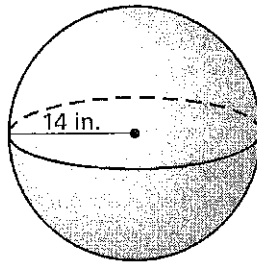
19. The circumference of a sphere is  $338\pi$  meters. What is the surface area of the sphere? Round your answer to two decimal places.

Find the volume of the sphere. Round your answer to two decimal places.

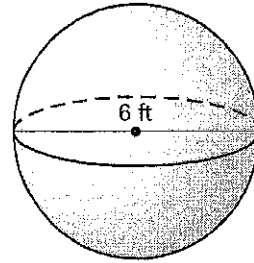
20.



21.



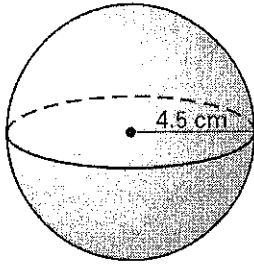
22.



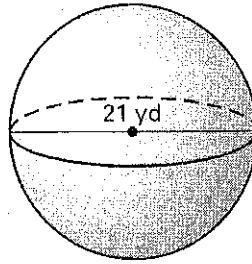
LESSON  
6.9**Practice** *continued*

Find the volume of the sphere. Round your answer to two decimal places.

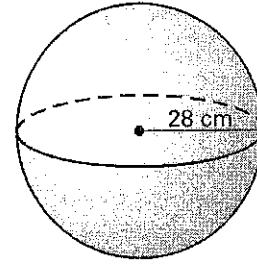
23.



24.



25.



Find the radius of a sphere with the given volume  $V$ .

26.  $V = 2304\pi \text{ yd}^3$

27.  $V = 36\pi \text{ in.}^3$

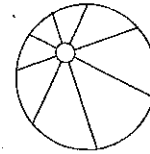
28.  $V = 33.51 \text{ mm}^3$

29. A sphere is inscribed in a cube of volume 8 cubic meters. What are the surface area and volume of the sphere? Round your answers to two decimal places.

In Exercises 30–32, use the following information.

**Beach Ball** A beach ball has a surface area of about 78.54 square feet.

30. Find the radius of the beach ball.



$$S = 78.54 \text{ ft}^2$$

31. Find the circumference of a great circle of the beach ball. Round your answer to two decimal places.
32. Find the volume of the beach ball. Round your answer to two decimal places.

33. **Planets** The mean radius of Earth is approximately 6378 kilometers. The mean radius of Mars is approximately 3397 kilometers, or about  $\frac{1}{2}$  the mean radius of Earth. How does the surface area of Mars compare to the surface area of Earth?

