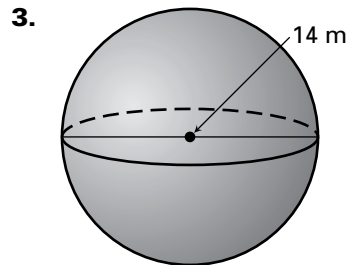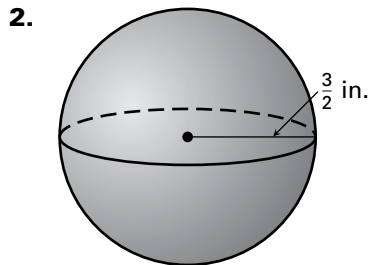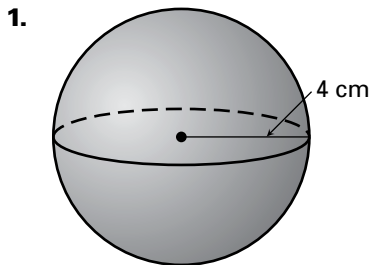Name _____   Date _____

LESSON 11.8 **Practice B**
For use with the lesson "Surface Area and Volume of Spheres"

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

1.

4 cm

2.

$\frac{3}{2}$ in.

3.

14 m

4. **Multiple Choice** What is the approximate radius of a sphere with a surface area of 40π square feet?
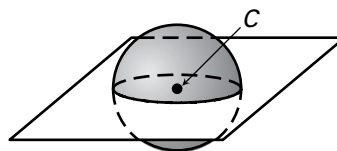
   A. 2 ft   **B.** 3.16 ft   **C.** 6.32 ft   **D.** 10 ft

In Exercises 5–7, use the sphere below. The center of the sphere is *C* and its circumference is 7π centimeters.

5. Find the radius of the sphere.

6. Find the diameter of the sphere.

7. Find the surface area of one hemisphere. Round your answer to two decimal places.

C

8. **Great Circle** The circumference of a great circle of a sphere is 24.6π 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.

9.

7 ft

10.

$\frac{9}{2}$ yd

11.

16 m
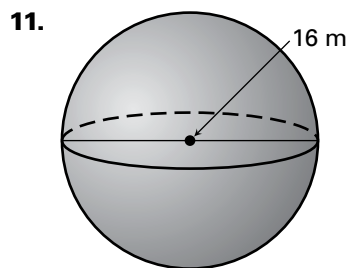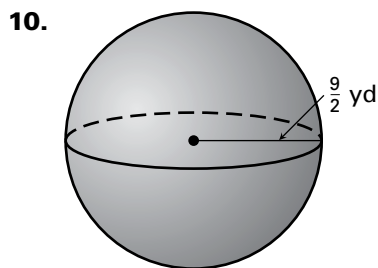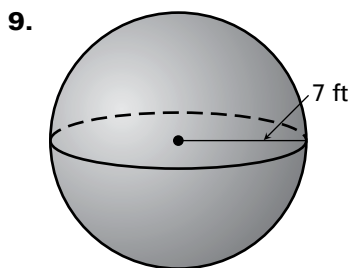
Find the radius of the sphere with the given volume *V*. Round your answer to two decimal places.

12. $V = 64$ in.^{3} **13.** $V = 150\pi$ cm^3 **14.** $V = 152$ m^3

15. **Multiple Choice** What is the approximate radius of a sphere with a volume of 128π cubic centimeters?

   A. 2.5 cm   **B.** 4.58 cm   **C.** 6.62 cm   **D.** 8 cm
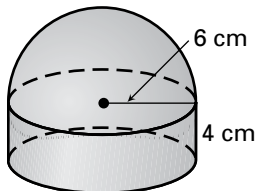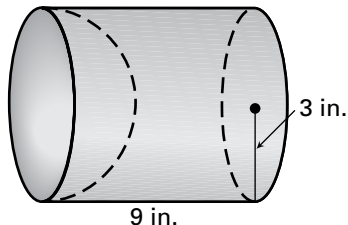
LESSON 11.8 | **Practice B** *continued*
For use with the lesson "Surface Area and Volume of Spheres"

Find the surface area and the volume of the solid. The cylinders and cones are right. Round your answer to two decimal places.
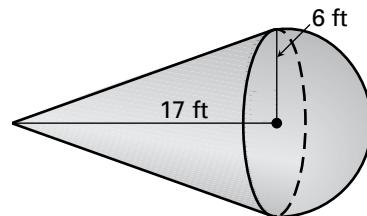
16.

6 cm

4 cm

17.

3 in.

9 in.

18.

6 ft

17 ft

Complete the table below. Leave your answers in terms of π.

	Radius of sphere	Circumference of great circle	Surface area of sphere	Volume of sphere
19.	12 mm			
20.		8π in.		
21.			49π ft^2	
22.				288π m^3

23. **Finding a Diameter** The volume of a sphere is 972π cubic centimeters. What is the diameter of the sphere?

In Exercises 24–26, use the following information.

Golf Balls A standard golf ball has a diameter of 1.68 inches. Golf balls are often sold in a box of four. Assume that the balls are packed tightly so that they touch the lateral sides and the bases of the box.

24. What is the surface area of a golf ball?

25. What is the volume of a golf ball?

26. What is the amount of volume inside the box that is not taken up by the golf balls?