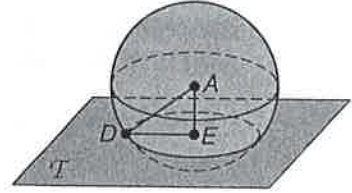## 12-7 Skills Practice

Surface Areas of Spheres

In the figure, A is the center of the sphere, and plane $\mathcal{T}$ intersects the sphere in circle E. Round to the nearest tenth if necessary.

1. If $AE = 5$ and $DE = 12$, find AD.

    13

2. If $AE = 7$ and $DE = 15$, find AD.

    16.6

3. If the radius of the sphere is 18 units and the radius of $\odot E$ is 17 units, find AE.

    5.9

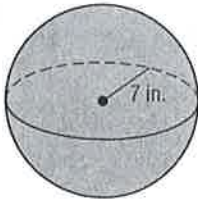4. If the radius of the sphere is 10 units and the radius of $\odot E$ is 9 units, find AE.

    4.4
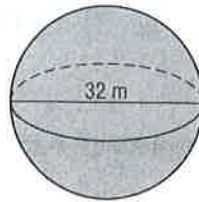
5. If M is a point on $\odot E$ and $AD = 23$, find AM.

    23

Find the surface area of each sphere or hemisphere. Round to the nearest tenth.

6.

    7 in.

    615.8 in²

7.

    32 m

    3217.0 m²

8. a hemisphere with a radius of the great circle 8 yards

    603.2 yd²

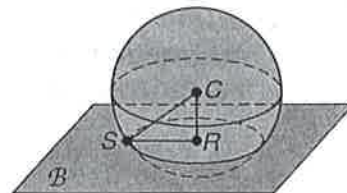9. a hemisphere with a radius of the great circle 2.5 millimeters

    58.9 mm²

10. a sphere with the area of a great circle 28.6 inches

    114.4 in²

12-7 Practice

Surface Areas of Spheres

In the figure, C is the center of the sphere, and plane $\mathcal{B}$ intersects the sphere in circle R. Round to the nearest tenth if necessary.

1. If $CR = 4$ and $SR = 14$, find CS.

14.6

2. If $CR = 7$ and $SR = 24$, find CS.

25

3. If the radius of the sphere is 28 units and the radius of $\odot R$ is 26 units, find CR.

10.4

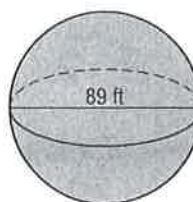4. If J is a point on $\odot R$ and $CS = 7.3$, find CJ.

7.3

Find the surface area of each sphere or hemisphere. Round to the nearest tenth.

5.

6.5 cm

530.9 cm²

6.

89 ft

24,884.6 ft²

7. a sphere with the area of a great circle 29.8 meters

119.2 m²

8. a hemisphere with a radius of the great circle 8.4 inches

665.0 in²

9. a hemisphere with the circumference of a great circle 18 millimeters

77.3 mm²

10. **SPORTS** A standard size 5 soccer ball for ages 13 and older has a circumference of 27–28 inches. Suppose Breck is on a team that plays with a 28-inch soccer ball. Find the surface area of the ball.

about 249.6 in²