

**Problems with the homework?**

$$\begin{aligned} 11. \quad A &= 3\left(\frac{bh}{2}\right) + 15.6 \\ &= 3\left(\frac{6(8.9)}{2}\right) + 15.6 \\ &= 80.1 + 15.6 \\ &= 95.7 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} 7. \quad A &= 4 \left( \frac{bh}{2} \right) + \text{base} \\ &= 4 \left( \frac{8(9)}{2} \right) + (8)(8) \\ &= 144 + 64 \\ &= 208 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} 4. \quad A &= 3\left(\frac{bh}{7}\right) + 10.8 \\ &= 3\left(\frac{5(7)}{2}\right) + 10.8 \\ &= 52.5 + 10.8 \\ &= 63.3 \text{ yd}^2 \end{aligned}$$

Dixie Cup

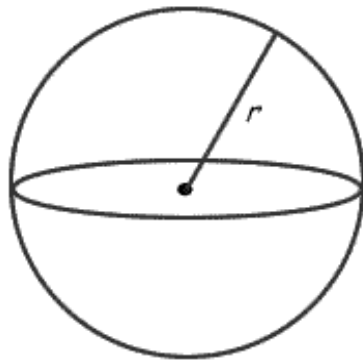
$$\text{Cone} = \cancel{\pi r^2} + \pi r s$$

$$\text{Area Dixie Cup} = \pi r s$$

# Sphere

Surface Area

$$A = 4\pi r^2$$



Volume

$$V = \frac{4}{3}\pi r^3$$



**Example 1****Determining the Surface Area of a Sphere**

The diameter of a baseball is approximately 3 in.

Determine the surface area of a baseball to the nearest square inch.



$$\begin{aligned} A &= 4\pi r^2 \\ &= 4\pi (1.5)^2 \\ &= 9\pi \\ &= 28.2 \text{ in}^2 \end{aligned}$$

**Example 2****Determining the Diameter of a Sphere**

The surface area of a lacrosse ball is approximately 20 square inches.

What is the diameter of the lacrosse ball to the nearest tenth of an inch?

$$A = 4\pi r^2$$

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$$\frac{\cancel{4\pi}r^2}{\cancel{4\pi}} = \frac{A}{4\pi}$$

$$\sqrt{r^2} = \sqrt{\frac{A}{4\pi}}$$

$$r = \sqrt{\frac{A}{4\pi}}$$

$$= \sqrt{\frac{20}{4\pi}}$$

$$= \frac{5}{\pi}$$

$$= 1.6 \text{ in}$$

$$\begin{aligned} \text{Diameter} &= (1.6)(2) \\ &= 3.2 \text{ in} \end{aligned}$$

**CHECK YOUR UNDERSTANDING**

2. The surface area of a soccer ball is approximately 250 square inches.  
What is the diameter of a soccer ball to the nearest tenth of an inch?

$$A = 4\pi r^2$$

$$\frac{250}{4\pi} = \frac{4\pi r^2}{4\pi}$$

$$\frac{250}{4\pi} = r^2$$

$$\sqrt{\frac{250}{4\pi}} = r$$

$$4.5 = r$$

$$\text{diameter} = 2(4.5) \\ = 9.0 \text{ in}$$



# Class / Homework

## Worksheet

Surface Area of Cones and Spheres

## Homework

1.  $S = \text{surface area}$   
 $r = \text{radius}$   
 $s = \text{slant height}$