

In This Chapter, You Have Learned

- To find the surface area of a rectangular prism, a rectangular pyramid, and a sphere
- To find the lateral area and surface area of a cylinder and a cone

Words You Know

From the lists of "Words to Learn," choose the word or phrase that best completes each statement.

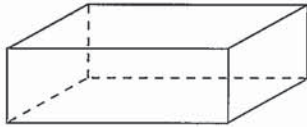
1. A(n) _____ is a pattern used to form a three-dimensional figure that has at least one flat surface.
2. The formula πdh gives the _____.
3. The area of all the surfaces of a three-dimensional figure is called the _____.



More Practice

Label each figure described. Then find the surface area of the figure. Show your work.

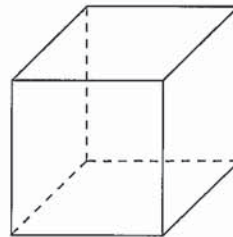
4. rectangular prism with length 6 cm, width 5 cm, and height 2 cm



$$SA = 2(lw + lh + wh)$$

$$SA = \underline{\hspace{2cm}}$$

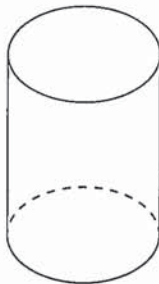
5. cube with edge of 11 in.



$$SA = 6s^2$$

$$SA = \underline{\hspace{2cm}}$$

6. cylinder with diameter 10 ft and height 7 ft



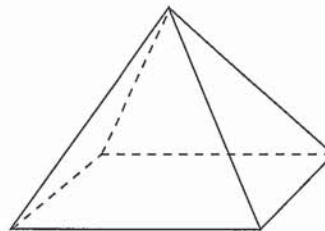
$$LA = \pi dh$$

$$LA \approx \underline{\hspace{2cm}}$$

$$SA = LA + 2\pi r^2$$

$$SA \approx \underline{\hspace{2cm}}$$

7. square pyramid with base area 4 m^2 , slant height 4 m, and length of edge of base = 2 m



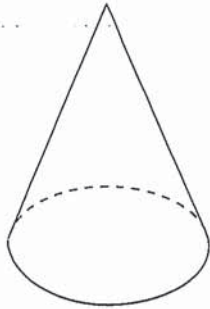
$$LA = 4\left(\frac{1}{2}bh\right)$$

$$LA = \underline{\hspace{2cm}}$$

$$SA = LA + \text{area of base}$$

$$SA = \underline{\hspace{2cm}}$$

8. cone with radius 9 ft and slant height 10 ft



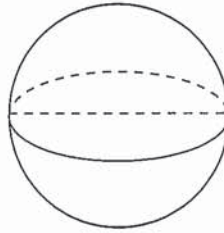
$$LA = \pi rs$$

$$LA \approx \underline{\hspace{2cm}}$$

$$SA = LA + \pi r^2$$

$$SA \approx \underline{\hspace{2cm}}$$

9. sphere with radius 20 mm



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

$$SA \approx \underline{\hspace{2cm}}$$

Problems You Can Solve

10. Kamil is using a full sheet of paper that measures 8.5 inches by 11 inches to cover the lateral surface of a cylinder.
- What is the lateral area of the cylinder? $\underline{\hspace{2cm}}$
 - Could Kamil cover the lateral surfaces of different cylinders using paper that measures 8.5 inches \times 11 inches? How many different cylinders could he cover? Explain.

11. A water cup is shaped like a cone. It has a radius of 4 cm and a slant height of 10.8 cm. How much paper is used to form the cup? $\underline{\hspace{2cm}}$

12. **For Your Portfolio** Find several large pieces of cardboard of the same size. Or, cut three pieces so that they are the same size. Make a different three-dimensional shape from each piece of cardboard, using as much of that piece as possible. Find the surface area of each shape you make. Make a drawing of each shape and describe how you made it.
