Module 13   Perimeter, Area, and Volume
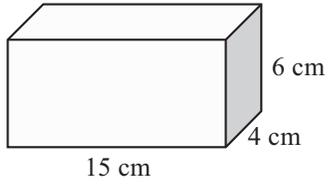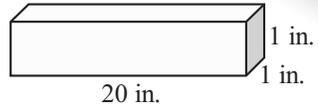**Lesson 4   Surface Area: Prisms, Cylinders, and Spheres**

Find the surface area.

1.

6 cm
4 cm
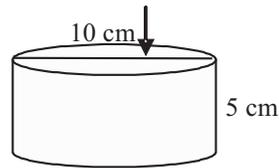15 cm

2.

1 in.
1 in.
20 in.

3.

12 m
15 m

4.

8 ft

5.

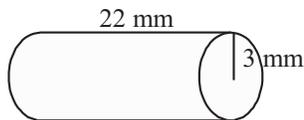17 in.

6.

10 cm
5 cm
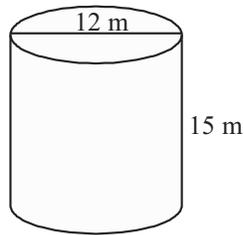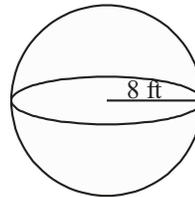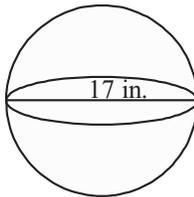
Find the lateral area.

7.

22 mm
3 mm

8.

17 in.
9 in.
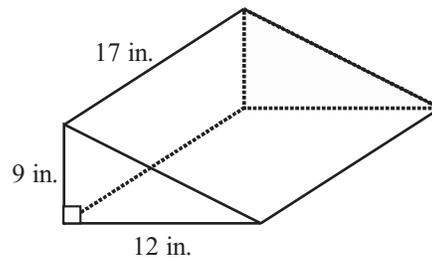12 in.

9. Find the surface area of a cube with a side length of 0.8 meter.

10. The surface area of a sphere is 615.44 square inches. What is the diameter of the sphere?

11. A cardboard box has a length of four feet, a width of $\frac{1}{2}$ foot, and a height of $\frac{3}{4}$ foot. What is the surface area of the box?

12. The lateral area of a cylinder is 200.96 square centimeters. What is the height of the cylinder if the diameter of the cylinder is four centimeters?

13. Which has the greater surface area: a 7 ft by 2 ft by 4 ft rectangular prism or a cube with side lengths of four feet? How much greater is the surface area?
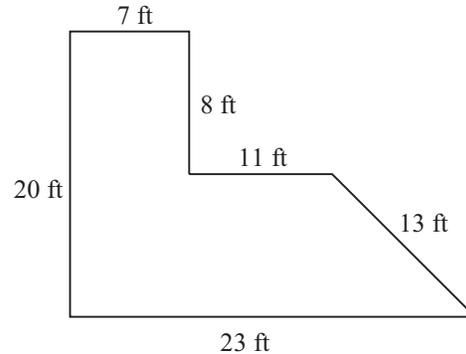
Journal

1. What is the difference between the lateral area and the surface area of a prism? Which area is always greater? Why?

2. Explain why the surface area of a cube can be found by using the formula $SA = 6s^2$.

3. Explain why the expression $2lw + 2lh + 2wh$ gives the surface area of a rectangular prism.
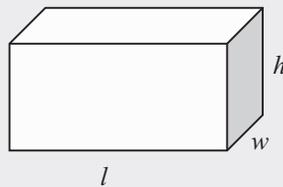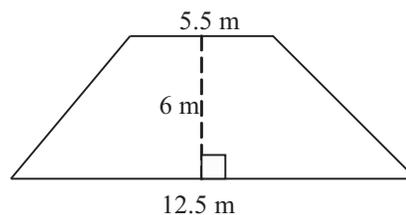

Cumulative Review

1. Find the perimeter and area of the figure.

2. Find the circumference and area of a circle whose diameter is 35 inches.

3. Find the area of the trapezoid.

4. Find the area of a triangle whose base has a length of 230 millimeters and whose height is 56 millimeters.

5. The area of a parallelogram is 630 square meters. What is the height if the base is 42 meters?

6. Estimate the area of the shape. Each ☐ is 1 km².