Name _____
Homework # _____

Volume of Cylinders and Prisms

1. Use the formula $V=lwh$ and the given dimensions to find the volume of each rectangular solid.

   a. $l = 5$ ft $w = 4$ ft $h = 7$ ft

   b. $l = 8$ cm $w = 7$ cm $h = 5$ cm

   c. $l = 2\frac{1}{2}$ in $w = 8$ in $h = 5\frac{1}{4}$ in

   d. $l = 7.25$ cm $w = 6.4$ cm $h = 3.6$ cm

2. Use the formula $V = e^3$ to find the volume of each cube for which edge e is given.

   a. 2 yds

   b. 2.76 m

   c. $^1/_3$ ft

3. Use the formula $V = Bh$ for the volume of a triangular right prism. The base of the right prism is a triangle, with one side measuring 8 cm and the altitude to that side measuring 6 cm. The height h of the prism is 9.7 centimeters.
   a. Find the area B of the base.

   b. Find the volume of the triangular right prism.

4. Use the formula $V = Bh$ for the volume of a trapezoidal right prism. The base of the right prism is a trapezoid. In this trapezoid, there are two bases, 6 feet and 10 feet long, separated by a height or altitude of 4 feet. The height h of the prism is 12 feet.
    a. Find the area B of the trapezoidal base.

    b. Find the volume of the trapezoidal right prism.

5. Each algebraic expression represents the length of an edge of a cube. If x = 3 find the volume of the cube.
    a. $x + 2$ b. $2(x - 1)$

6. Each algebraic expression represents the dimensions of a rectangular solid. If x = 4 find the volume of the rectangular solid.
    a. Length = $x + 2$, width = $x - 1$, height = $2x$

    b. Length = $2x + 1$, width = $\frac{1}{2} x$, height = $\frac{3}{4} x + 1$

7. Use the formula $V = \pi r^2 h$ to find the volume of each right circular cylinder that has the given dimensions: **a**. in terms of π **b**. to the nearest cubic unit.

    i. r = 21 in h = 10 in

    ii. r = 28 ft h = ¾ ft

    iii. r = 1.4 m h = 6 m