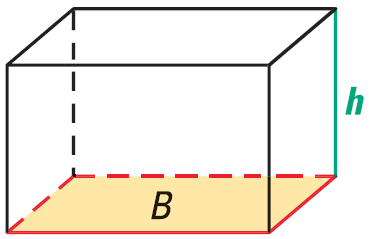
Geometry

12.4 Volume of Prisms and Cylinders

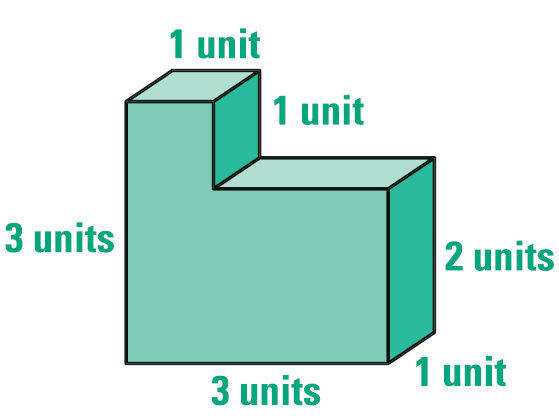
## Volume of a Prism

Bh

Where B = base area, h = height of prism

## Volume of a Cylinder

Where r = radius, h = height of cylinder

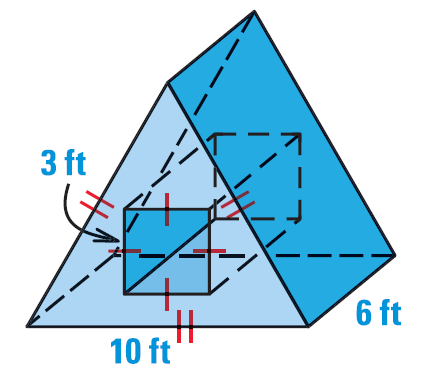
Find the volume of the figure.

Cut into two prisms

Top

Bottom

Total

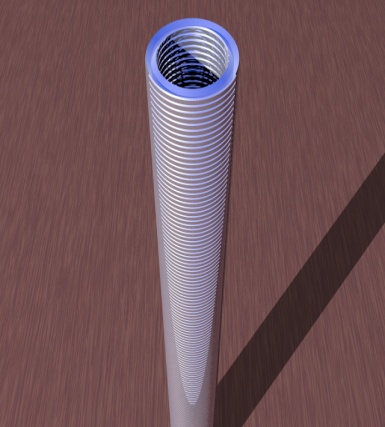
Find the volume.

Base Area (front)

Find height of triangle

Area=triangle - square

Volume = Bh

There are 150 one-inch washers in a box. When the washers are stacked, they measure 9 inches in height. If the inside hole of each washer has a diameter of ¾ inch, find the volume of metal in one washer.

Find volume of washers without holes: V = π ½2 9 = 7.06858

Find volume of hole: V = π(3/8)2 9 = 3.97608

Find volume of washers with holes: 7.06858 – 3.97608 = 3.09251

Find volume of one washer: 3.09251/150 = 0.02 in3

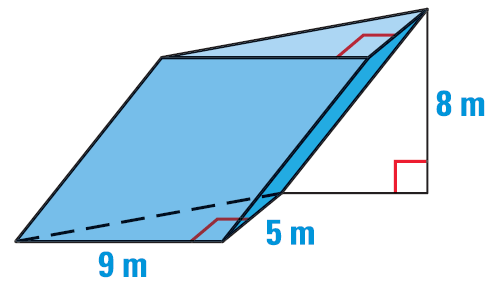
## Cavalieri’s Principle

cross-sectional area

height

If two solids have the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_at every level, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

they have the same volume.

Find the volume.

Assignment: 822 #2-40 even = 20