

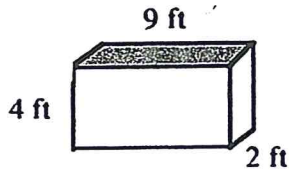
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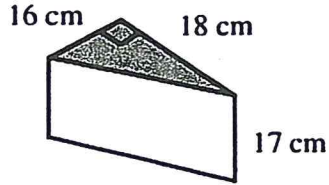
### Volume of a Prism

Find the volume of each prism. Show all subproblems. Draw and label the "base shape." Remember the proper units. Circle your final answer.

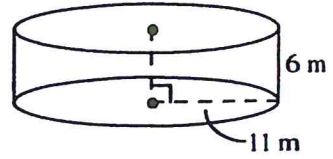
1)



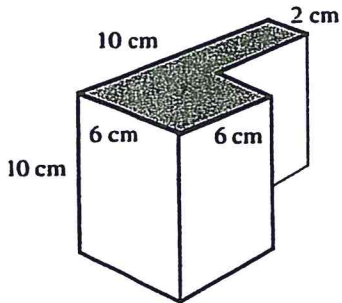
2)



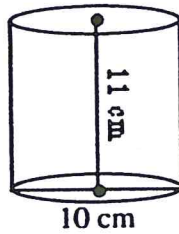
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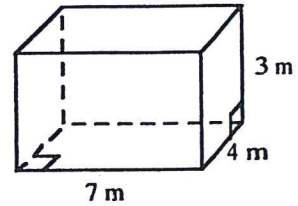
4)



5)



6)



7) If the volume is  $533 \text{ ft}^3$  and the height is 12 feet, find the radius, to the nearest foot.

8) The volume of a cube is  $729 \text{ ft}^3$ . What are the dimensions of this cube?

9) Draw a net of the prism from problem 1. Label the dimensions.

## VOLUME OF A CYLINDER

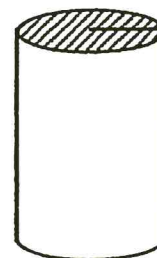
#39

The volume of a cylinder is the area of its base multiplied by its height:

$$\text{Volume} = (\text{Area of Base})(\text{height}) \text{ or } V = A \cdot h.$$

Since the base of a cylinder is a circle of area  $A = \pi r^2$ , we can write:

$$V = \pi r^2 h.$$



## VOLUME OF A PRISM

Volume is a three-dimensional concept. It measures the amount of interior space of a three-dimensional figure based on a cubic unit, that is, the number of 1 by 1 by 1 cubes that will fit inside a figure.

The volume of any prism is the area of either base ( $A$ ) times the height ( $h$ ) of the prism.

$$V = (\text{Area of base}) \cdot (\text{height}) \text{ or } V = Ah$$

