

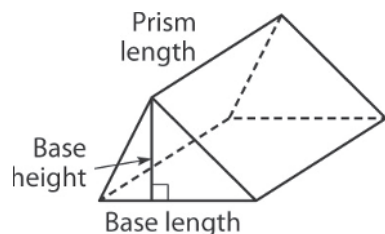
LESSON
10-2

Volume of Triangular Prisms and Pyramids

Reading Strategies: Build Vocabulary

To solve volume problems with triangular prisms and pyramids, it is helpful to know and use the vocabulary words that refer to the parts of the figures. Notice that both figures have *base heights* and heights for the figure as a whole.

Triangular Prisms



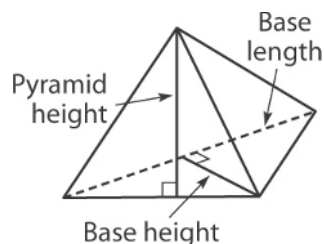
The *base length* and the *base height* are used to compute the area of the triangular base, B :

$$B = \frac{1}{2} \times \text{base height} \times \text{base length}$$

The *prism length* is used to compute the *prism volume*, V_{prism} :

$$V_{\text{prism}} = B \times \text{prism length}$$

Triangular Pyramids



The *base length* and the *base height* are used to compute the area of the triangular base, B :

$$B = \frac{1}{2} \times \text{base height} \times \text{base length}$$

The *pyramid height* is used to compute the *pyramid volume*, V_{pyramid} :

$$V_{\text{pyramid}} = \frac{1}{3} \times B \times \text{pyramid height}$$

Calculate the parts and compute the volume.

- The triangular base of a prism is 10 feet wide and has a height that is half of that. The length of the prism is 4 feet more than the width of its base. Include the units.

Base width: _____ Base height: _____ Base area: _____

Prism length: _____ Prism volume: _____

- The triangular base of a pyramid has a width that is half of the pyramid height. The pyramid height is four times the height of the base which is 3 meters.

Base width: _____ Base height: _____ Base area: _____

Pyramid height: _____ Pyramid volume: _____