

**▮ homework check:** NPM 9 p. 455 # 3, 6, 7, 10, 13, 14, 15, 17

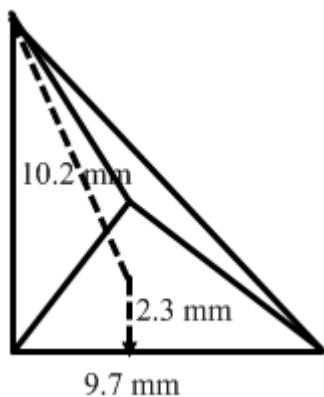
**▮ note:** Volumes of Pyramids and Cones

There is a relationship between the volume of a pyramid or cone and that of the corresponding prism or cylinder with the same base and height. In general, it takes 3 times the volume of any cone or pyramid to fill the matching cylinder or prism, therefore, the formula for the volume of either shape is:

$$V_{\text{pyramid}} = \frac{1}{3} A_{\text{base}} h \qquad V_{\text{cone}} = \frac{1}{3} \pi r^2 h$$

For example, find the volume of either shape.

a)



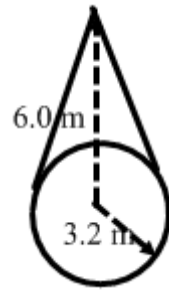
$$V = \frac{1}{3} A_{\text{base}} h$$

$$V = \frac{1}{3} \left( \frac{Pa}{2} \right) h$$

$$V = \left( \frac{1}{3} \right) \frac{9.7(3)(2.3)}{2} (10.2)$$

$$V = 2538.5 \text{ mm}^3$$

b)



$$V = \frac{1}{3} \pi r^2 h$$

$$V = \frac{1}{3} \pi (3.2)^2 (6.0)$$

$$V = 64.3 m^3$$

**■ homework assignment: NPM 9 p. 464 # 3 – 10**