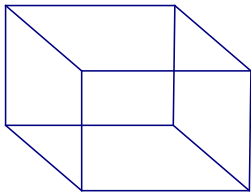
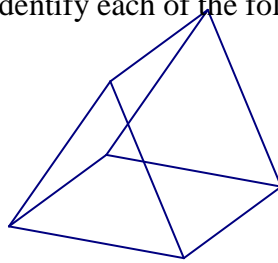


Course: MFM2P Gr. 10 AppliedLesson: 8 - 2Unit: Volume and Surface AreaTopic: Volume of Prisms and Pyramids✚ *homework check:* Lesson 8 - 1✚ *note:* Volume of Prisms and Pyramids

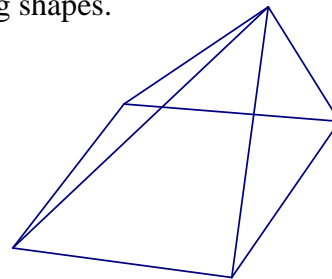
To find the volume of any three dimensional *prism*, we can multiply the *area of the base by the height*. To find the volume of any three dimensional *pyramid*, we can multiply the *area of the base by the height and divide the product by 3*. The important idea is the identification of the base. Since the walls of all prisms are rectangular, the base shape is usually the shape that is not rectangular (unless the three dimensional shape is a rectangular prism). For instance identify each of the following shapes.



rectangular prism

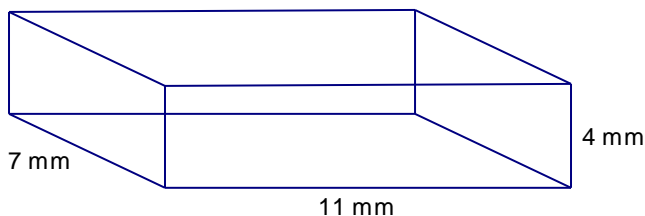


triangular prism



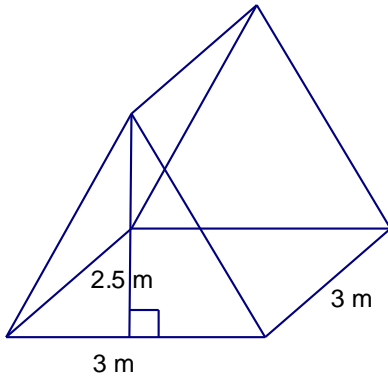
rectangular based pyramid

Find the volume of each of the given shapes. Remember it is important to identify the uncommon face as the base of the shape.



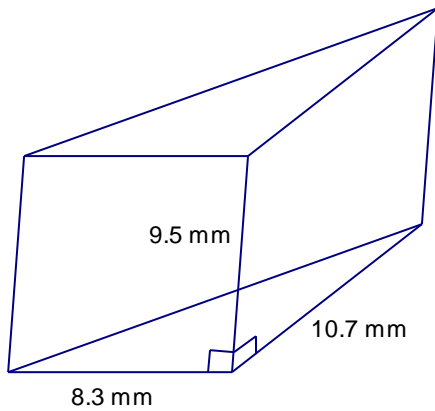
$$\begin{aligned} \text{Area}_{\text{base}} &= lw \\ &= 11(7) \\ &= 77\text{mm}^2 \end{aligned}$$

$$\begin{aligned} \text{Volume}_{\text{prism}} &= A_b h \\ &= 77(4) \\ &= 308\text{mm}^3 \end{aligned}$$



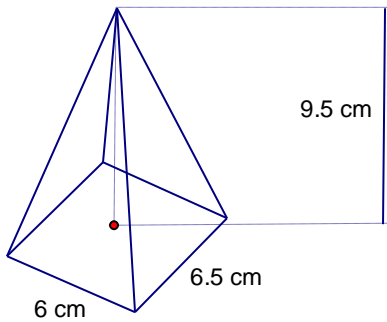
$$\begin{aligned} \text{Area}_{\text{base}} &= \frac{bh}{2} \\ &= \frac{3(2.5)}{2} \\ &= 3.75\text{m}^2 \end{aligned}$$

$$\begin{aligned} \text{Volume}_{\text{prism}} &= A_{\text{base}} h \\ &= 3.75(3) \\ &= 11.25\text{m}^3 \end{aligned}$$



$$\begin{aligned} \text{Area}_{\text{base}} &= \frac{bh}{2} \\ &= \frac{8.3(10.7)}{2} \\ &= 44.405\text{mm}^2 \end{aligned}$$

$$\begin{aligned} \text{Volume}_{\text{prism}} &= A_{\text{base}} h \\ &= 44.405(9.5) \\ &= 421.8475\text{mm}^2 \end{aligned}$$



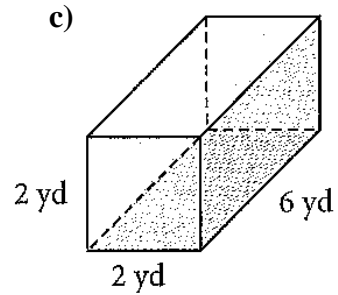
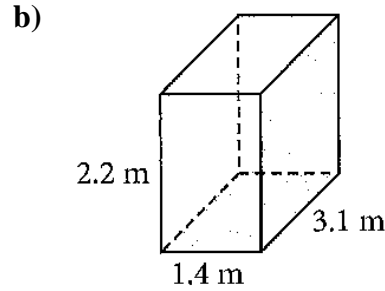
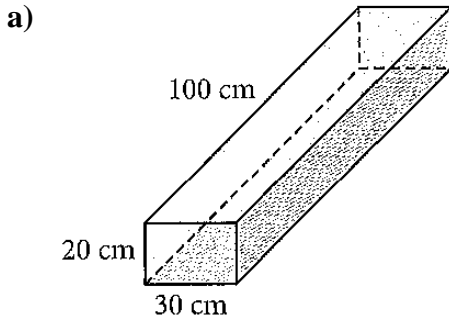
$$\begin{aligned} \text{Area}_{\text{base}} &= lw \\ &= 6(6.5) \\ &= 39\text{cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Volume}_{\text{pyramid}} &= \frac{A_{\text{base}} h}{3} \\ &= \frac{39(9.5)}{3} \\ &= 123.5\text{cm}^3 \end{aligned}$$

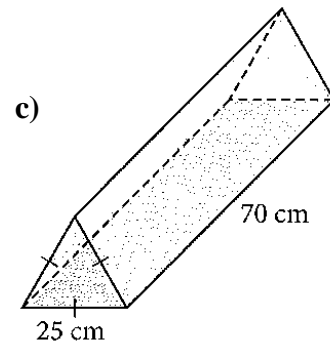
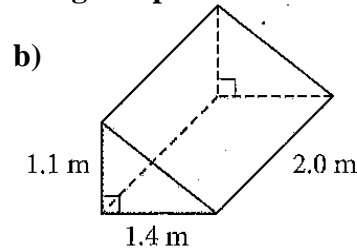
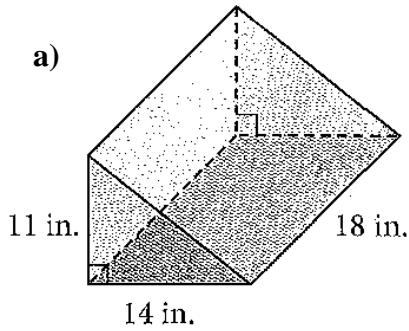
✚ homework assignment: Lesson 8 - 2

Lesson 8 – 2: Volume of Prisms and Pyramids

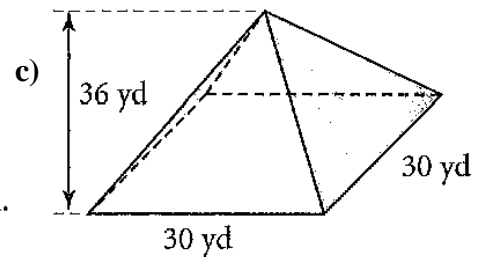
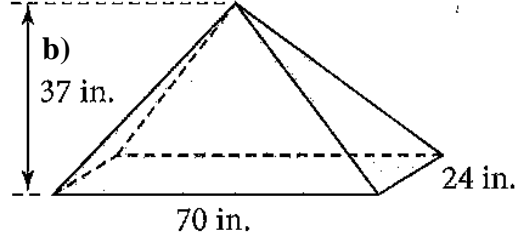
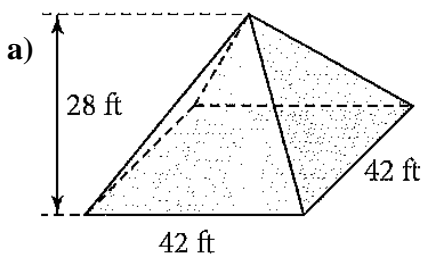
1. Find the volume of each rectangular prism.



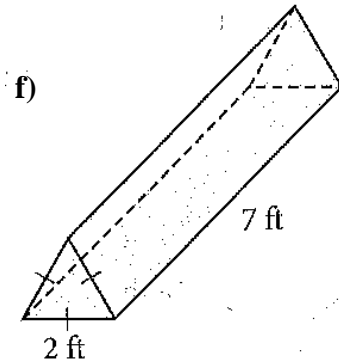
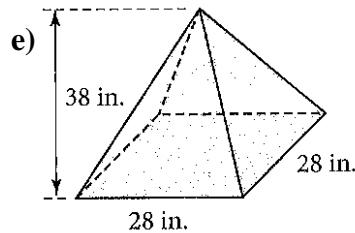
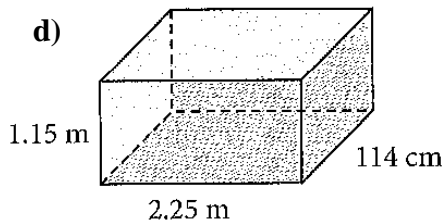
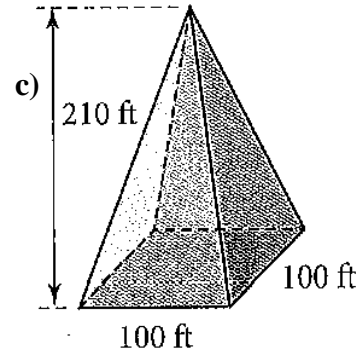
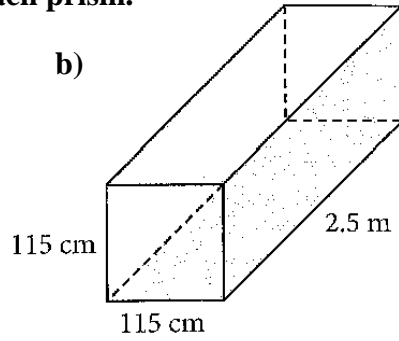
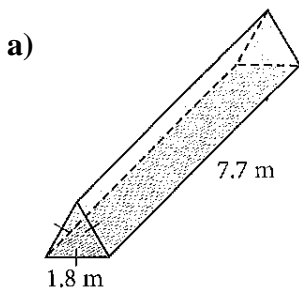
2. Find the volume of each triangular prism.



3. Find the volume of each pyramid.



4. Find the volume of each prism.



5. Vanessa is deciding on packaging her ski and snowboard goggles. She has narrowed the design of the box down to 2 choices as shown in the diagram. Find the volume of both.

