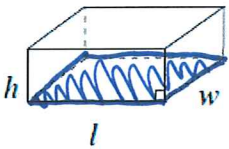
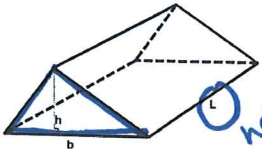
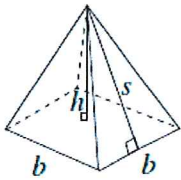


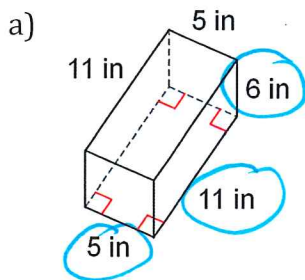
### 3.4 Volumes of Prisms and Pyramids

The **volume** of a 3-dimensional figure is the amount of space it takes up. To find the volume, we find the area of the base and multiply it by the height of the object. We use cubic units for volume, such as cm<sup>3</sup>, in<sup>3</sup>, yd<sup>3</sup> etc.

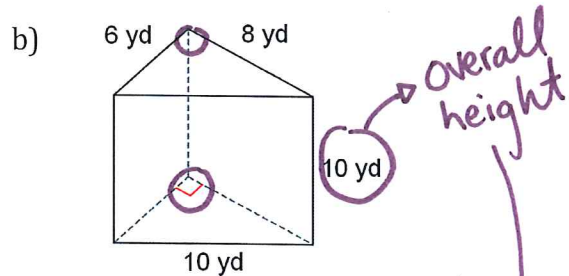
3D Figure	Volume
	$V = A_{\text{rectangle base}} \times \text{height}$ OR $V = lwh$
	$V = A_{\text{triangle base}} \times \text{height}$ $\frac{bh}{2}$
	$V = \frac{1}{3} \times A_{\text{square base}} \times \text{height}$ OR $V = \frac{1}{3} b^2 h$

#### Examples

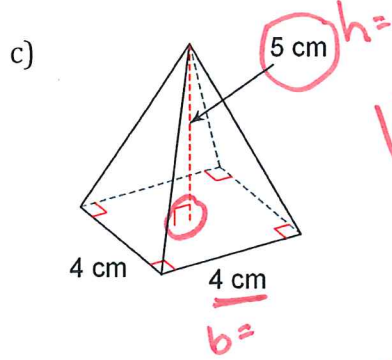
Ex 1. Find the volume of each of the following.



$$\begin{aligned}
 V &= lwh \\
 &= 11 \times 5 \times 6 \\
 &= 330 \text{ in}^3
 \end{aligned}$$



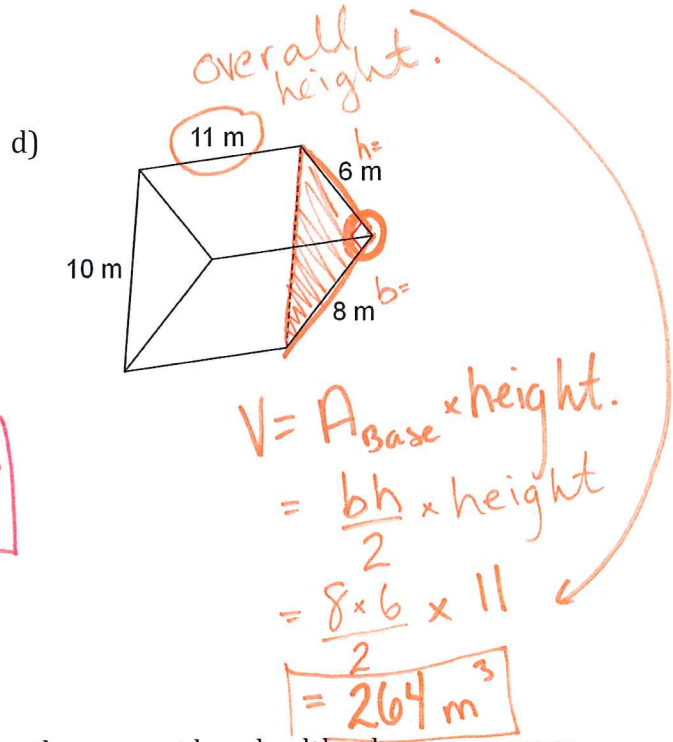
$$\begin{aligned}
 V &= A_{\text{Base}} \times \text{height} \\
 &= \frac{bh}{2} \times \text{height} \\
 &= \frac{6 \times 8}{2} \times 10 \\
 &= 240 \text{ yd}^3
 \end{aligned}$$



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

$$= \frac{1}{3} (4)^2 (5)$$

$$= 26.67 \text{ cm}^3$$



### 3.4 Practice

1. Find the volume of each of the following. Round to the nearest hundredth where necessary.

