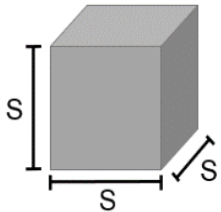


**6D – Area and Volume**

❖ Vocabulary, Formulas, Theories:

- **Cube:** a three-dimensional object where each face is a square. Every side length,  $s$ , is equal.

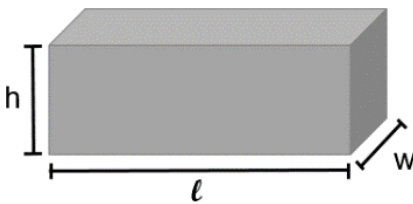


$S$  = side length

$$Volume = s^3$$

$$S.A = 6s^2$$

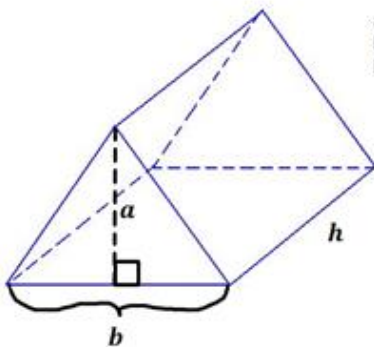
- **Rectangular Prism:** a three-dimensional object where each face is a rectangle.



$w$  = width  
 $l$  = length  
 $h$  = height

$$Volume = l \cdot w \cdot h$$

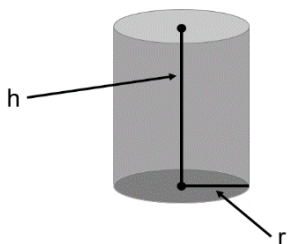
- **Triangular Prism:** a three-dimensional object where three sides are rectangles and two bases are triangles.



$a$  = altitude of triangle  
 $b$  = length of base of triangle  
 $h$  = height of prism

$$Volume = \frac{1}{2} \cdot a \cdot b \cdot h$$

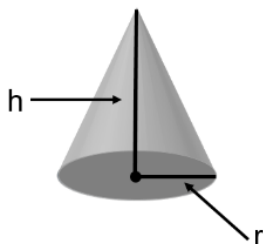
- **Cylinder:** a three-dimensional object that has two congruent circular bases that are parallel.



$h$  = height  
 $r$  = radius

$$Volume = \pi r^2 h$$

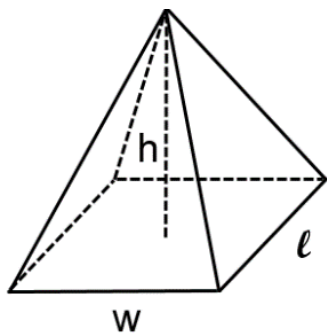
- **Cone:** a three-dimensional object tapered to a point from a circular base.



$h$  = height  
 $r$  = radius

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

- **Pyramid:** a three-dimensional object that has sides meeting at an apex (or peak) from its base.

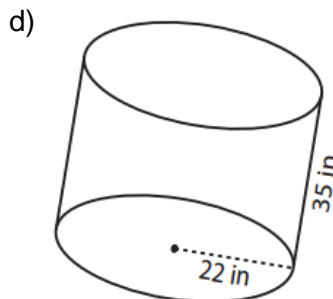
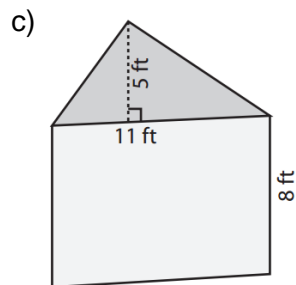
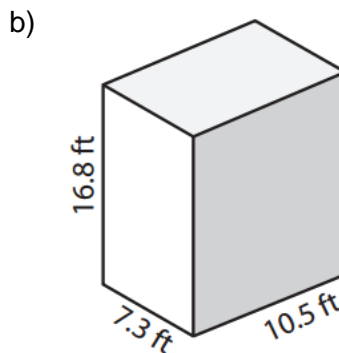
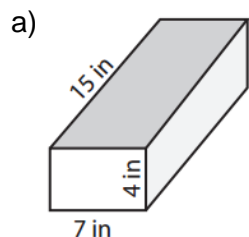


w = width  
 l = length  
 h = height

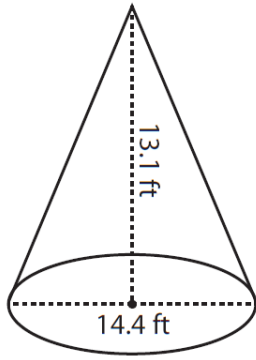
$$Volume = \frac{w \cdot l \cdot h}{3}$$

Video - ["Base Area and Volume - Example" - MathontheWeb \(12:07\)](#)

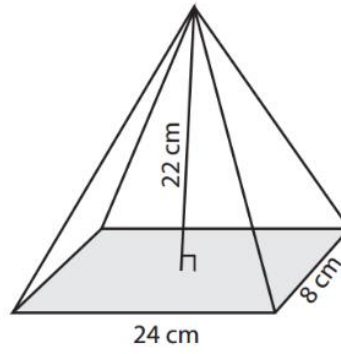
EX1) Determine the base area and the volume of the figures.



e)

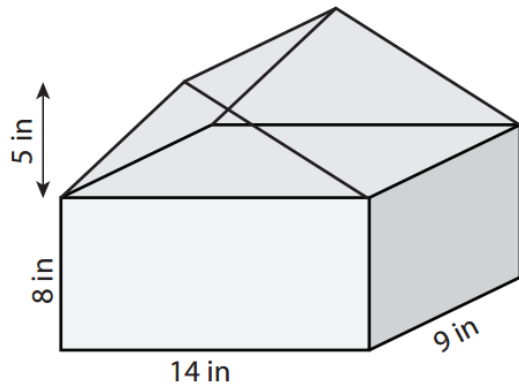


f)



EX2) Determine the total volume of the figures.

a)



b)

