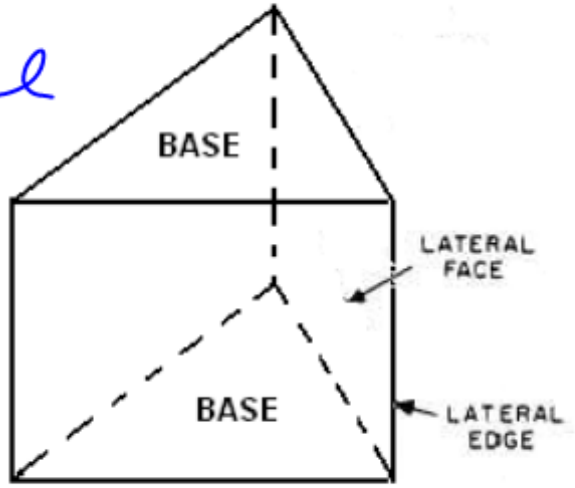
1.) **Prism:** A 3D Figure with 2 ≅ and parallel "bases" and other faces are p-grams.

2.) **Base:** One of 2 ≅ and parallel faces of a prism.



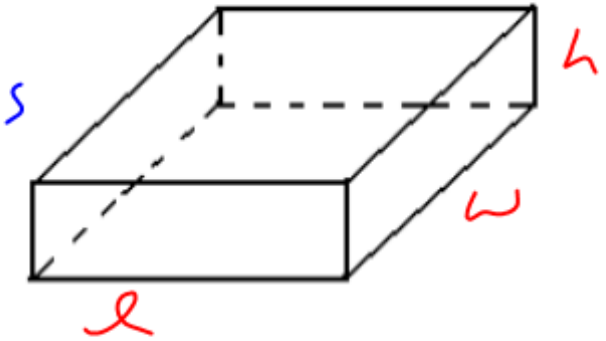

3.) **Lateral Faces:** The faces that aren't bases in a prism.

4.) **Oblique Prisms:** "Slanted" prism.

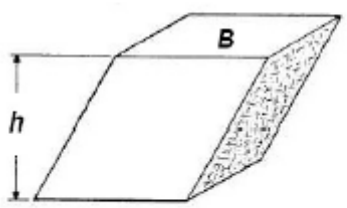
5.) **Height:** The distance between bases

**Volume (in general):**

**Volume of a Rectangular Prism:** $V = l \cdot w \cdot h$



**Volume (in general):**




$V = B \cdot h$

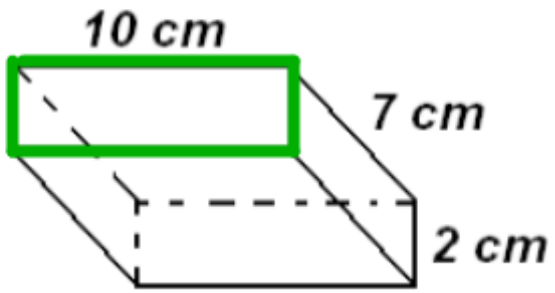
B = Area of a base

h = height (or distance between bases)

***Cavalieri's Principle***

Volume doesn't change based on how the objects are stacked.

**[EX 1]** (Rectangles)

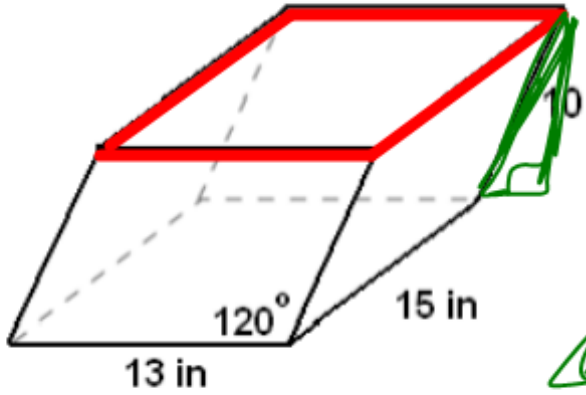


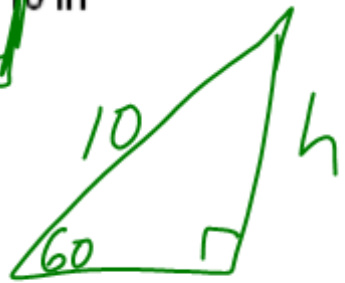

$V = B \cdot h$

$V = [10(2)](7)$

$V = 140 \text{ cm}^3$

**[EX 2]** P-grams with Rectangular Bases




$\sin 60 = \frac{h}{10}$

$8.66 = h$

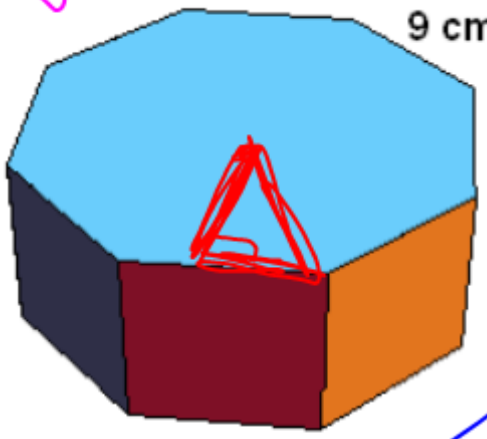
$V = B \cdot h$

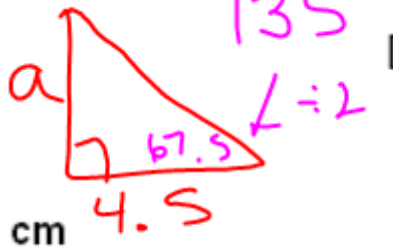
$V = [13(15)](8.66)$

$V = 1688.7 \text{ in}^3$

**[EX 3]** Octagonal Prism

$\text{angle} = \frac{6 \cdot 180}{8}$




135

$\angle \div 2$

$\tan 67.5 = \frac{a}{4.5}$

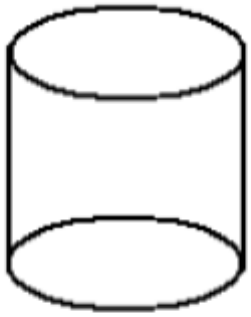
$a = 10.864$

$V = B \cdot h$

$= \left(\frac{1}{2}(10.864)(9)(8)\right)4$

$= 1564,42 \text{ cm}^3$

**[EX 4]** Right Cylinder
(Radius = 4.9 cm; Height = 4 cm)



$V = B \cdot h$

$V = [\pi(4.9)^2](4)$

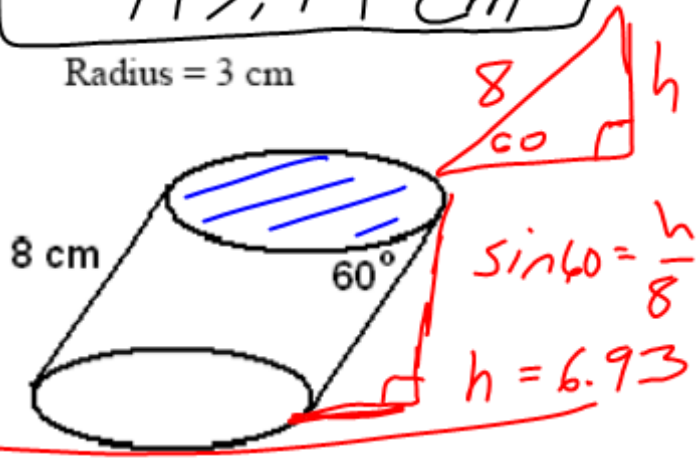
$V = 301,72 \text{ cm}^3$

$V = B \cdot h$

$= [\pi(3)^2]\ 6.93$

$= 195,94 \text{ cm}^3$

**[EX 5]** Radius = 3 cm




$\sin 60 = \frac{h}{8}$

$h = 6.93$