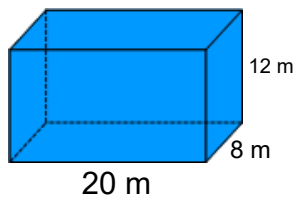


Lesson 3  
Gr 8 Elearning  
Ch 4

Warm Up Grade 8



Find the volume (Show all work)

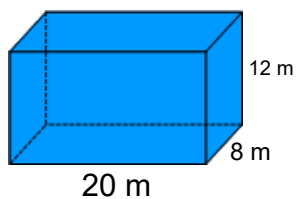




**Warm Up Grade 8**  
solution



Find the volume (Show all work)



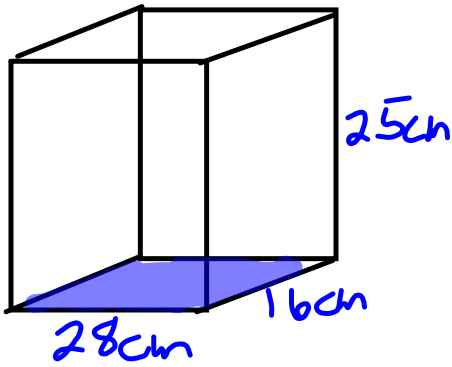
$$\begin{aligned} \text{Area of base} &= L \times W \\ &= 20 \text{ m} \times 8 \text{ m} \\ &= 160 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} V &= \text{Area of base} \times \text{height} \\ &= 160 \text{ m}^2 \times 12 \text{ m} \\ &= 1920 \text{ m}^3 \end{aligned}$$

Solutions

5.

a)



b)

$$\begin{aligned}
 A_{\text{base}} &= l \times w \\
 &= 28 \times 16 \\
 &= 448 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 V &= A_b \times h \\
 &= 448 \times 25 \\
 &= 11200 \text{ cm}^3
 \end{aligned}$$

b Sketches

a)  $A_{\text{base}} = l \times w$   
 $A = 5 \times 8$   
 $= 40 \text{ cm}^2$

$$\begin{aligned}
 V &= A_b \times h \\
 &= 40 \times 3 \\
 &= 120 \text{ cm}^3
 \end{aligned}$$

B  $A_{\text{base}} = l \times w$   
 $= 8 \times 3$   
 $= 24 \text{ cm}^2$

$$\begin{aligned}
 V &= A_b \times h \\
 &= 24 \times 5 \\
 &= 120 \text{ cm}^3
 \end{aligned}$$

C  $A_{\text{base}} = l \times w$   
 $= 5 \times 3$   
 $= 15 \text{ cm}^2$

$$\begin{aligned}
 V &= A_b \times h \\
 &= 15 \times 8 \\
 &= 120 \text{ cm}^3
 \end{aligned}$$

b) The volume is the same for each

c) No the volume doesn't change when you change the position, the dimensions are still 3, 5 and 8 cm

7. Sketches

$$\begin{aligned} \text{a) } A_b &= l \times w \\ &= 5 \times 3 \\ &= 15 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} V &= A_b \times h \\ &= 15 \times 4.5 \\ &= 67.5 \text{ cm}^3 \end{aligned}$$

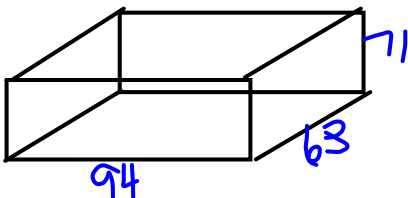
$$\begin{aligned} \text{b) } A_b &= l \times w \\ &= 7.5 \times 3.2 \\ &= 24 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} V &= A_b \times h \\ &= 24 \times 4 \\ &= 96 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} \text{c) } A_b &= l \times w \\ &= 3.5 \times 2.4 \\ &= 8.4 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} V &= A_b \times h \\ &= 8.4 \times 3 \\ &= 25.2 \text{ cm}^3 \end{aligned}$$

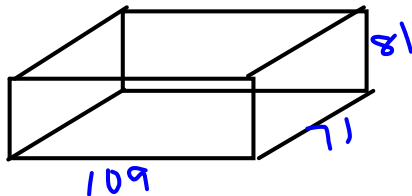
9. Rick



$$\begin{aligned} A_{\text{base}} &= l \times w \\ &= 94 \times 63 \\ &= 5922 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Vol} &= A_b \times h \\ &= 5922 \times 71 \\ &= \underline{420462} \text{ cm}^3 \end{aligned}$$

Susan



$$\begin{aligned} A_b &= l \times w \\ &= 109 \times 71 \\ &= 7739 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Vol} &= A_b \times h \\ &= 7739 \times 81 \\ &= \underline{626859} \text{ cm}^3 \end{aligned}$$

$$\text{b) } 400 \times 1 = 400$$

$$400 \times 2 = 800$$

$$400 \times 1.5 = 600$$

You would multiply the volume of Rick's by about 1.5 to get Susan's volume

### Finding Volume of Triangular Prisms

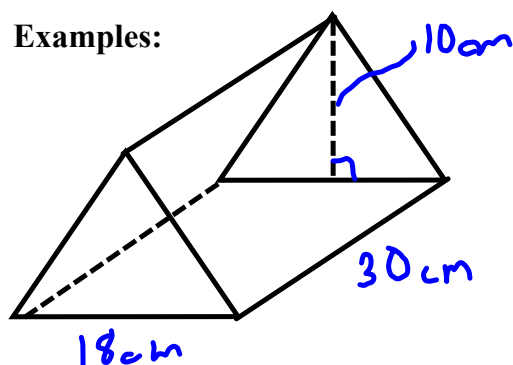
You can find the volume of any prism using the formula we stated yesterday.

$$\text{Volume} = \text{Area of base} \times \text{height}$$

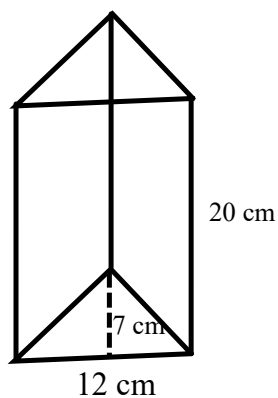
First, determine the shape of the base, then find its area, finally multiply by the height of the prism.

Base shape of a triangular prism is ALWAYS a TRIANGLE

Examples:



Ex 2)



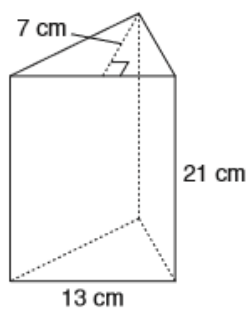
# Class/Homework

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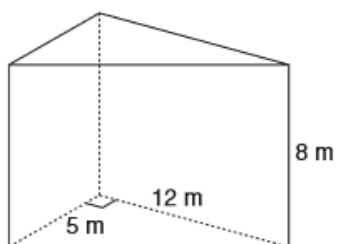
#5, #6,

5. Find the volume of each triangular prism.

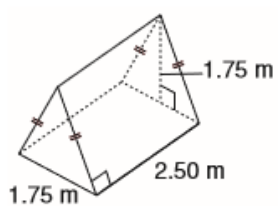
a)



b)



c)



**Apply**

**6.** Find the volume of each prism.

