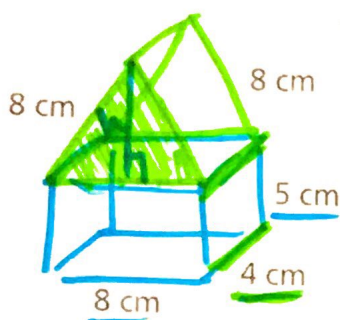


1) Find the volume of the composite figure to the nearest tenth:



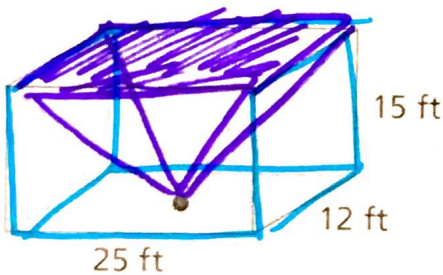
$$\begin{aligned}
 & \text{Right triangle with legs } 4 \text{ and } h, \text{ and hypotenuse } 8 \\
 & h^2 + 4^2 = 8^2 \\
 & h^2 = 48 \\
 & h = 6.93
 \end{aligned}$$

V of Box:  
 $l \cdot w \cdot h$   
 $160 \text{ cm}^3$

V of triangular prism:  
 $V = Bh$   
 $B = \text{triangle}$   
 $V = (27.72)(4)$   
 $V = 110.88 \text{ cm}^3$

$160 + 110.88 = 270.88 \text{ cm}^3$   
 $B = \frac{1}{2}bh$   
 $B = \frac{1}{2}(8)(6.93)$   
 $B = 27.72$

6) What is the volume of the figure below?

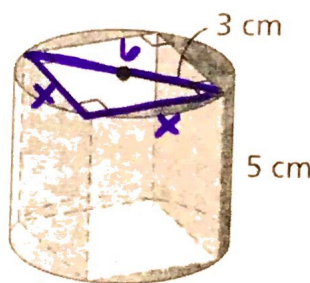


Box:  $V = l \cdot w \cdot h$   
 $V = 25 \cdot 12 \cdot 15$   
 $V = 4500 \text{ ft}^3$

Pyramid:  $V = \frac{1}{3}Bh$   
 $B = \text{rectangle}$   
 $B = 25 \cdot 12 = 300$   
 $h = 15$   
 $V = (\frac{1}{3})(300)(15)$   
 $V = 1500 \text{ ft}^3$

$4500 - 1500 = 3,000 \text{ ft}^3$

2) Find the volume of the composite figure to the nearest tenth:



cyl:  $V = Bh$   
 $B = \pi(3^2)$   
 $B = 9\pi$   
 $h = 5$   
 $V = 45\pi$

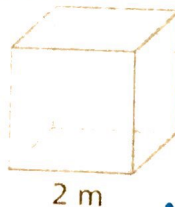
BOX:  $V = l \cdot w \cdot h$

$x^2 + x^2 = 6^2$   
 $2x^2 = 36$   
 $x^2 = 18$   
 $x = 4.24$

$V = (4.24)(4.24)(5) = 89.89 \text{ cm}^3$

$45\pi - 89.89 = 51.48 \text{ cm}^3$

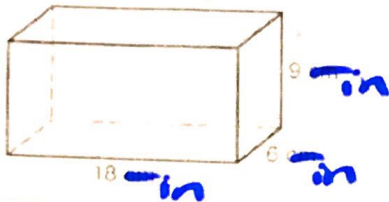
4) The edge of this cube is tripled. Find the effect on the volume.



$(3)^3 = 27$

Vol. is mult by 27.

- 13) How many 3-inch cubes can be placed inside the box?



Vol. of Box:

$$V = l \cdot w \cdot h$$

$$V = 18 \cdot 6 \cdot 9$$

$$V = \underline{972 \text{ in}^3}$$

$$\frac{972 \text{ in}^3}{27 \text{ in}^3} =$$

**36 cubes**

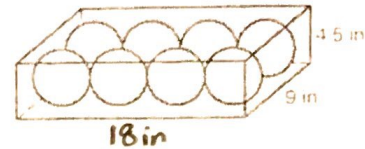
Vol. of 3in cube:

$$V = l \cdot w \cdot h$$

$$V = 3 \cdot 3 \cdot 3$$

$$V = \underline{27 \text{ in}^3}$$

- 17) Eight bocce balls are in a box 18 inches long, 9 inches wide, and 4.5 inches deep. If each ball has a diameter of 4.5 inches, what is the volume of the space around the balls? Round to the nearest tenth.



Vol. of Box:

$$V = l \cdot w \cdot h$$

$$V = 18 \cdot 9 \cdot 4.5$$

$$V = \underline{729 \text{ in}^3}$$

Vol. of sph.

$$V = \frac{4}{3} \pi r^3$$

$$V = \frac{4}{3} \pi (2.25)^3$$

$$V = 47.71$$

Vol. of 8 sph:

$$47.71 \cdot 8 = 381.68$$

$$V = 729 - 381.68 =$$

**347.32 in<sup>3</sup>**

- 15) Giza in Egypt is the site of the three great Egyptian pyramids. Each pyramid has a square base. The largest pyramid was built for Khufu. When first built, it had base edges of 754 feet and a height of 481 feet. Over the centuries, some of the stone eroded away and some was taken for newer buildings. Khufu's pyramid today has base edges of 745 feet and a height of 471 feet. To the nearest cubic foot, find the difference between the original and current volumes of the pyramid.

- Subtract current volume from the original volume.