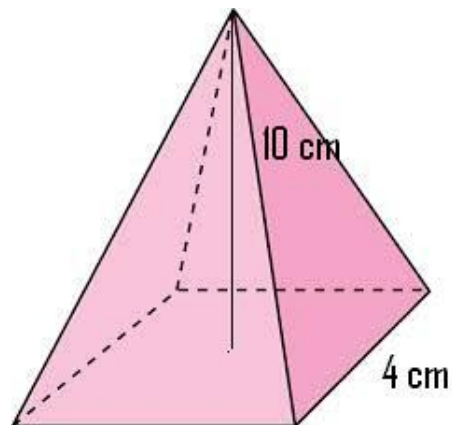


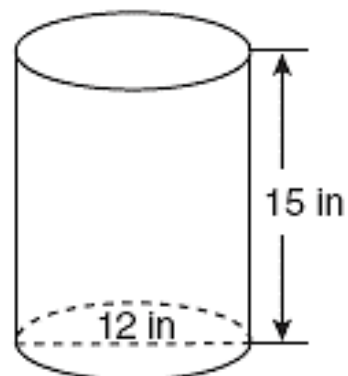


Target 6D: Calculate the base area and volume of prisms, cylinders, pyramids, and cones.

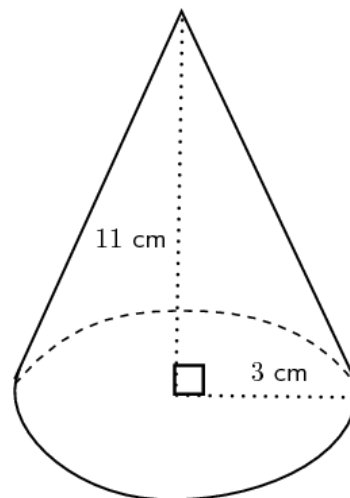
16. Calculate the volume of the square pyramid. $Volume = \frac{(area\ of\ base) \cdot height\ of\ pyramid}{3}$ (1 point)



17. Calculate the base area of the cylinder. $Area_{\odot} = \pi r^2$ (1 point)

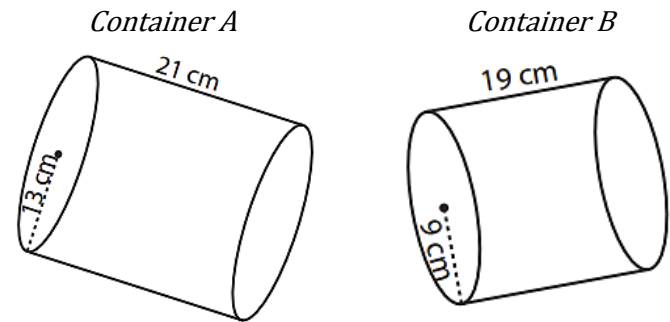


18. Calculate the volume of the cone. $Volume = \frac{(\pi r^2) \cdot height\ of\ cone}{3}$ (1 point)



19. Carrie has a choice of two different snack containers for her lunchbox. Both containers are the same price. Which container should Carrie buy if she wants more volume for her money? Explain. (3 points)

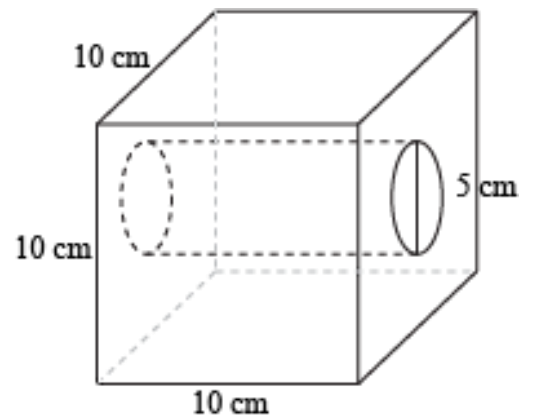
$$Volume = \pi r^2 \cdot h$$



20. A cylindrical tube is removed from a prism. How much volume of the prism is left? Round your answer to the nearest hundredth. (3 points)

$$Volume_{prism} = l \cdot w \cdot h$$

$$Volume_{cylinder} = \pi r^2 \cdot h$$



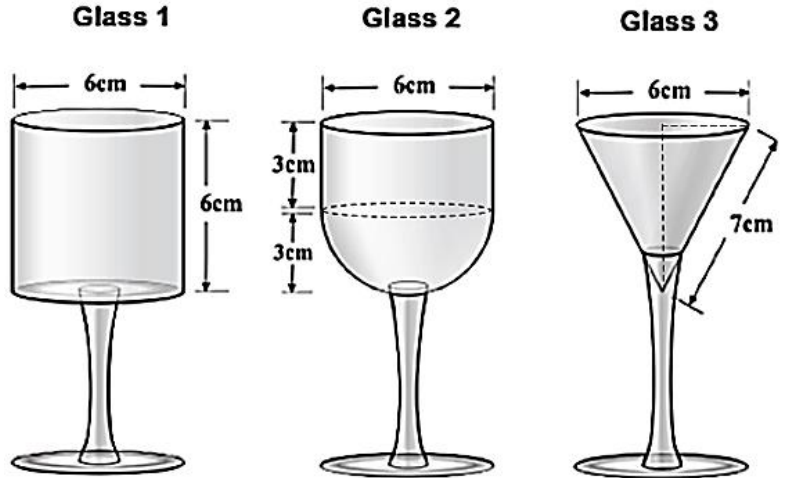
ADVANCED (10 possible points)

This diagram shows three glasses (not drawn to scale).

$$Volume_{cylinder} = \pi r^2 \cdot h$$

$$Volume_{sphere} = \frac{4\pi r^3}{3}$$

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



- The bowl of Glass 1 is cylindrical. The diameter is 6 cm and the height is 6 cm.
- The bowl of Glass 2 is a cylinder with a hemispherical bottom. The diameter is 6 cm and the height of the cylinder is 3 cm.
- The bowl of Glass 3 is an inverted cone. The diameter is 6 cm and the slant height is 7 cm.

1. Find the vertical height of the bowl of Glass 3. Show your work.

_____ cm

2. Calculate the volume of the bowl of each of these glasses. Show your work.

a) Glass 1

_____ cm³

b) Glass 2

_____ cm^3

c) Glass 3

_____ cm^3

3. Find the height of liquid in Glass 2 when it is half full. Show your calculations.

_____ cm