

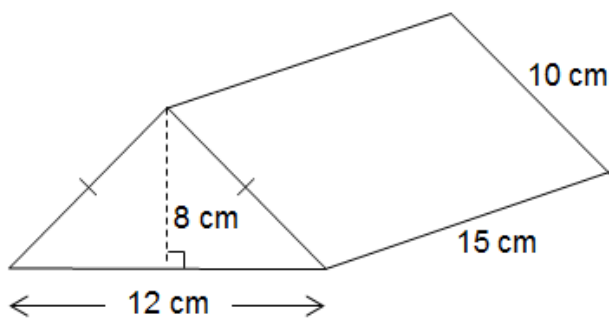
Surface Area and Volume Worksheet

1. Find the volume of a cube with side length 6 cm.

$$V = 6 \times 6 \\ = 36 \text{ cm}^3$$

Demonstrated a basic understanding of the volume of a cube and provided the correct units

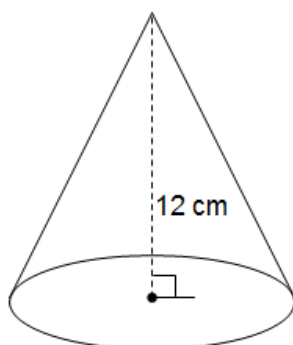
2. Find the surface area of this triangular prism.



$$\begin{aligned} \textcircled{1} A &= \frac{1}{2} \times 12 \times 8 \\ &= 48 \\ \textcircled{2} A &= 15 \times 10 \\ &= 150 \\ \text{Total} &= (48 + 150) \times 2 \\ &= 396 \text{ cm} \end{aligned}$$

Correctly calculated the area of the triangle and one rectangular side. Attempted to calculate the total surface area of the triangular prism

3. Find the volume of this cone to the nearest cm^3 .

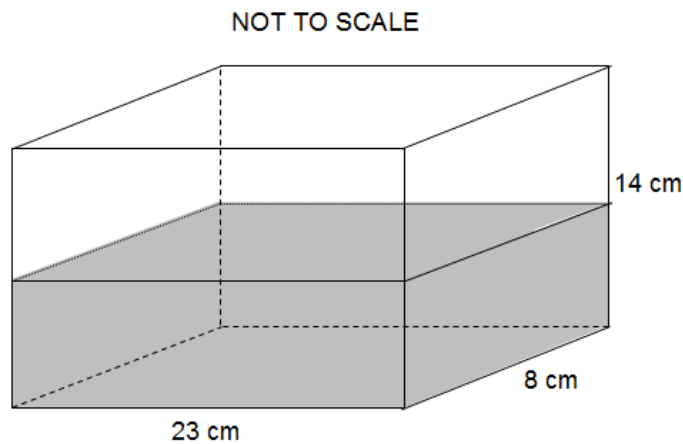


Diameter = 7 cm

$$\begin{aligned} \frac{1}{3} \times \pi \times 3.5^2 \times 12 \\ = 153.9 \text{ cm}^3 \end{aligned}$$

Correctly calculated the volume of the cone but incorrectly rounded to the nearest cm^3

4.



1000 mL of water is poured into the container shown in the diagram above.

(a) What is the volume of the container?

$$\begin{aligned}
 & \text{Total} = 392 + 368 = 760 \text{ cm}^3 \\
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 & \text{Total} = 392 + 368 = 760 \text{ cm}^3
 \end{aligned}$$

(b) What volume of water is required to fill the container?

$$1000 \text{ cm}^3$$

Demonstrated a limited understanding of calculating the volume of a rectangular prism and the relationship between volume and capacity

Grade Commentary

Kerry has demonstrated a sound knowledge and understanding of surface area and volume. Some understanding of the processes involved in calculating the surface area of a triangular prism has been shown. Kerry has correctly recalled and applied the formula for the volume of a cone. This work sample demonstrated characteristics of work typically produced by a student performing at a grade C6 level.