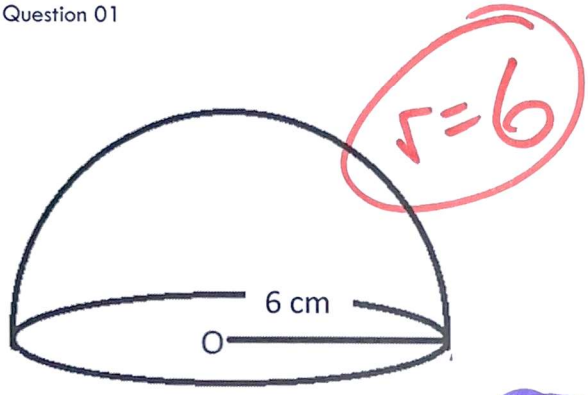
Name: ANSWERS! Class:

Question 01



A hemisphere (half a sphere) and some of its dimensions are shown. What is the volume, in cubic cm, of the hemisphere?

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

Volume of half sphere $= \frac{1}{2} \cdot \frac{4}{3}\pi r^3$

(a) 81π

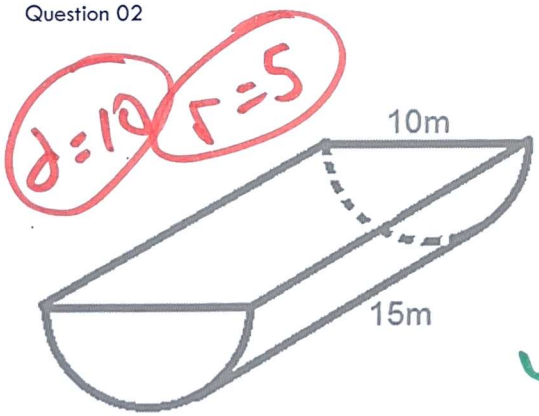
(b) 144π

(c) 288π

$V = 1 \div 2 \times 4 \div 3 \times 6 \times 6 \times 6 \times \pi$

$V = 144\pi$

Question 02



A section of a cylinder and some of its dimensions are shown. What is the volume, in cubic meters, of the figure?

Volume of cylinder $= \pi r^2 h$

Volume of half cylinder $= \frac{1}{2}\pi r^2 h$

(a) 187.5π

(b) 375π

(c) 750π

$V = 1 \div 2 \times 5 \times 5 \times 15 \times \pi$

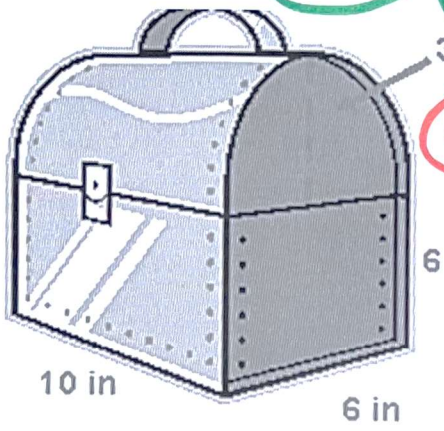
$V = 187.5\pi$

Question 03

PLUS

half cylinder = $\frac{1}{2}\pi r^2 h$

rectangular prism = $L \times W \times H$



$r = 3$

A lunchbox and some of its dimensions are shown. Which of the below is the closest to the total volume of the lunchbox, using 3.14 for pi?

$V = (1 \div 2 \times 3.14 \times 3 \times 3 \times 10) + (10 \times 6 \times 6)$

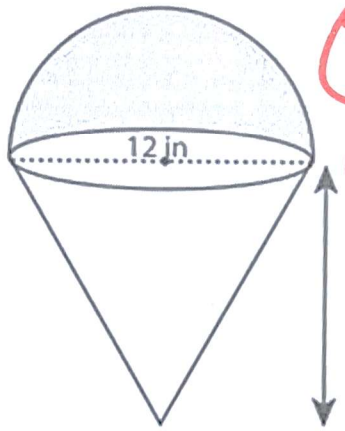
$V = 141.3 + 360$

(a) 318.6 cubic in

(b) 450 cubic in

(c) 501.3 cubic in

Question 04



$d = 12$

$r = 6$

A figure and some of its dimensions are shown. Which of the below is the closest to the total volume of the figure, using 3.14 for pi?

PLUS

half sphere = $\frac{1}{2} \times \frac{4}{3}\pi r^3$

CONE = $\frac{1}{3}\pi r^2 h$

(a) 753.6 cubic in

(b) 1,205.76 cubic in

(c) 1,356.48 cubic in

$V = (1 \div 2 \times 4 \div 3 \times 3.14 \times 6 \times 6 \times 6) + (1 \div 3 \times 3.14 \times 6 \times 6 \times 8)$

$V = 452.16 + 301.44$