

Composite Solids

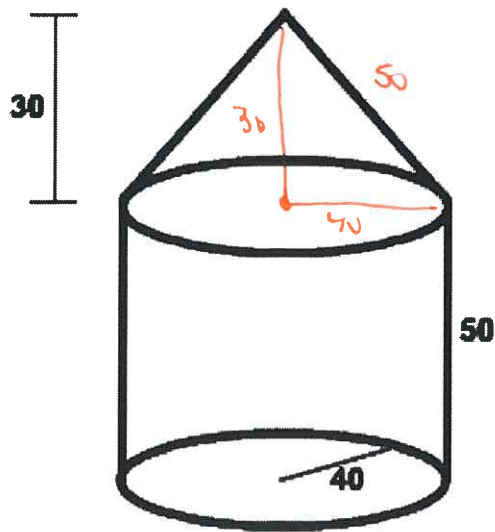
Extra Practice

KEY

Review Day 1: LOFT

Find volume and SA of COMPOSITE FIGURES/SOLIDS

- What would a net for this composite figure look like? Can you find the slant height? Calculate S.A. and volume.



SA

$\pi r l$
 $\pi 40 \cdot 50$
2000 π

$\pi d h$
 $\pi 80 \cdot 50$
4000 π

πr^2
1600 π

$7600 \pi u^2$



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

$$\frac{1}{3} \cdot \pi \cdot 40^2 \cdot 30$$

16000 π



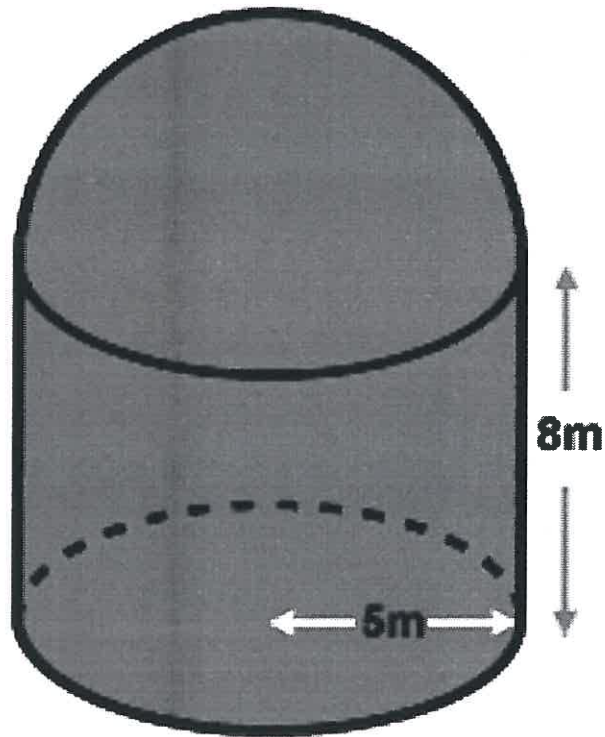
$$\pi r^2 h$$

$$40^2 \cdot 50$$

80000 π

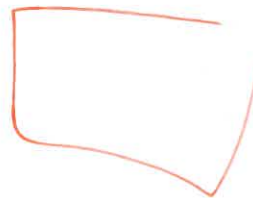
96000 πu^3

COMPOSITE FIGURES: FIND THE TOTAL SA AND VOLUME



$$2\pi r^2$$

$$50\pi$$



$$\pi dh$$

10 · 8

$$80\pi$$



$$\pi r^2$$

$$25\pi$$

$$155\pi \text{ m}^2$$



$$\frac{2}{3}\pi r^3$$

$\frac{2}{3} \cdot \frac{125}{1} \cdot \pi$

$$83\frac{1}{3}\pi$$



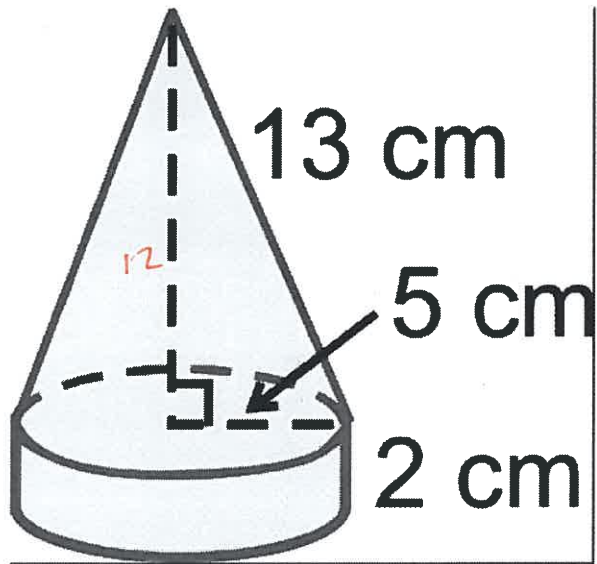
$$\pi r^2 h$$

$\pi \cdot 25 \cdot 8$

$$200\pi$$

$$283\frac{1}{3}\pi \text{ m}^3$$

COMPOSITE FIGURES: FIND THE TOTAL SA AND VOLUME



$$\triangle \quad \begin{array}{l} \pi r l \\ \pi \cdot 5 \cdot 13 \end{array} \quad \textcircled{65\pi}$$

$$\text{rectangle} \quad \begin{array}{l} \pi d h \\ \pi \cdot 10 \cdot 2 \end{array} \quad \textcircled{20\pi}$$

$$\text{circle} \quad \begin{array}{l} \pi r^2 \\ \pi \cdot 5^2 \end{array} \quad \textcircled{25\pi}$$

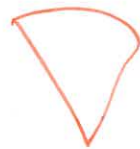
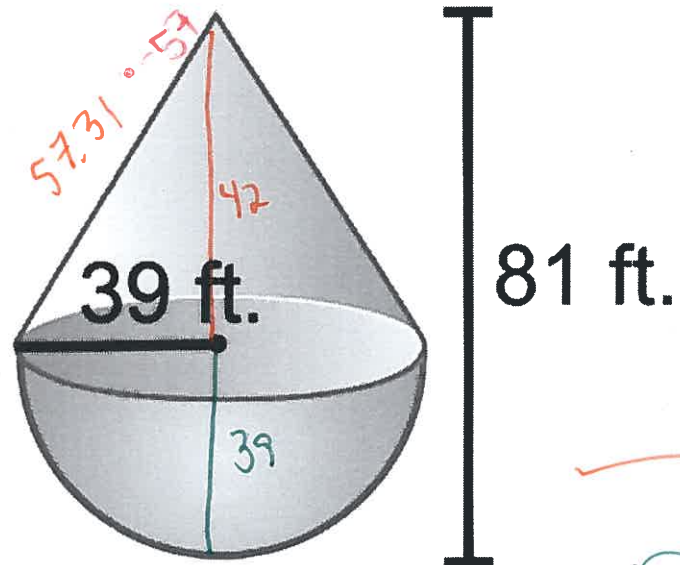
$$\boxed{110\pi \text{ cm}^2}$$

$$\text{cone} \quad \begin{array}{l} \frac{1}{3} \pi r^2 h \\ \frac{1}{3} \cdot 25 \cdot 12 \end{array} \quad \textcircled{100\pi}$$

$$\text{cylinder} \quad \begin{array}{l} \pi r^2 h \\ 25 \cdot 2 \end{array} \quad \textcircled{50\pi}$$

$$\boxed{150\pi \text{ cm}^3}$$

COMPOSITE FIGURES: FIND THE TOTAL SA AND VOLUME



$$\pi r l$$

$$39 \cdot 57.31$$

$$39 \cdot 57 \quad 2223\pi$$

$$2235.09\pi$$

$$5277.09\pi \text{ ft}^2$$



$$2\pi r^2$$

$$39^2$$

$$3042\pi$$

$$5265\pi \text{ ft}^2$$



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

$$\frac{1}{3} 39^2 \cdot 42$$

$$21294\pi$$

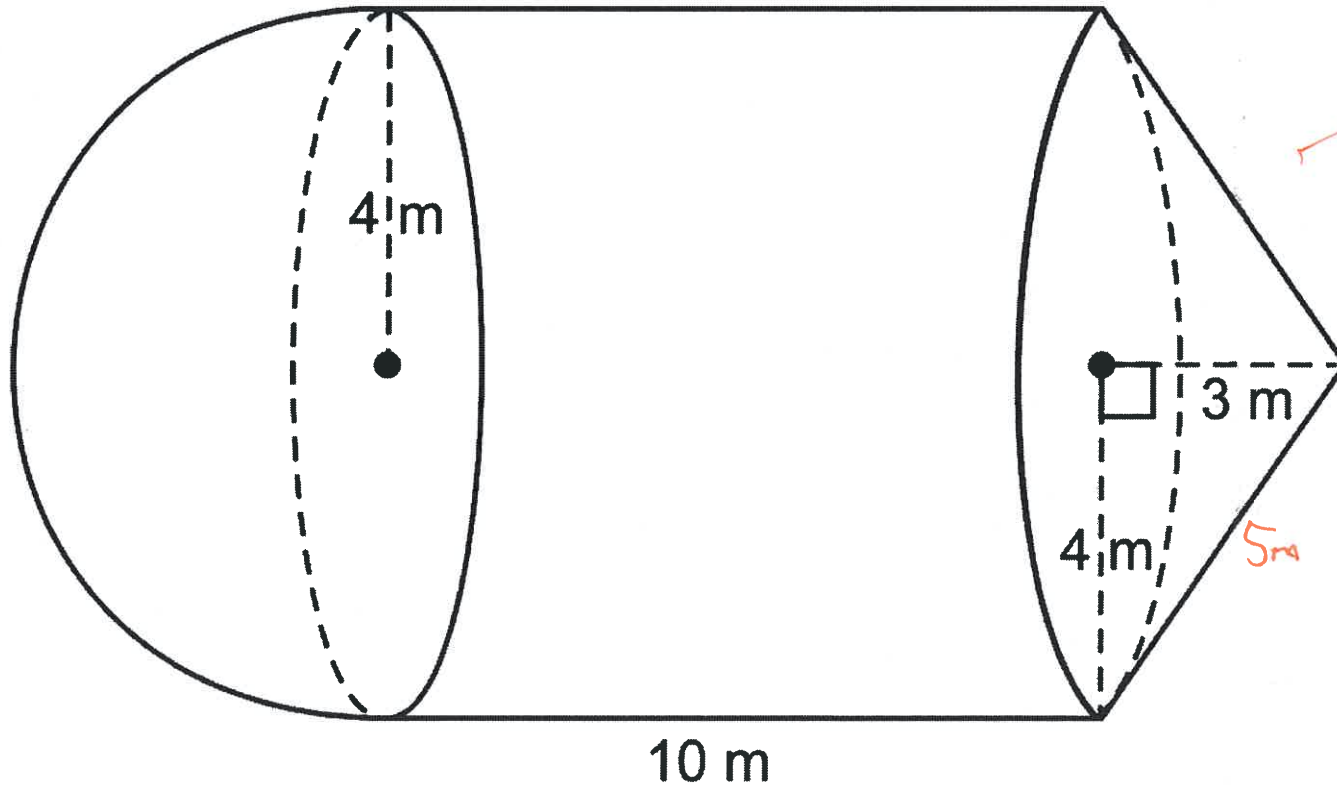
$$60840\pi \text{ ft}^3$$

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

$$39^3$$

$$39546\pi$$

Ready to go Solo???



SA

$$2\pi r^2$$

$$32\pi$$

$$\pi d h$$

$$80\pi$$

$$\pi r l$$

$$20\pi$$

$$132\pi \text{ m}^2$$

$$\frac{2}{3}\pi r^3$$

$$42\frac{2}{3}\pi$$

$$\pi r^2 h$$

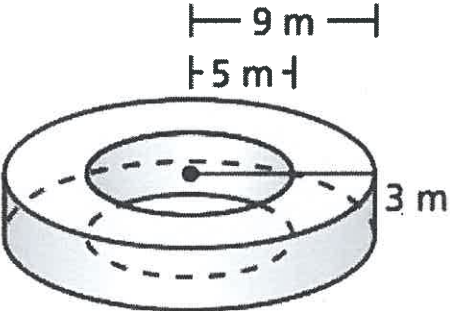
$$160\pi$$

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

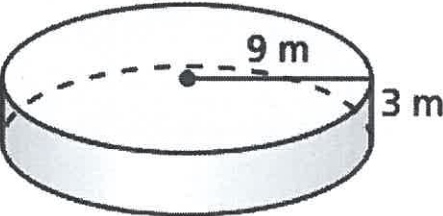
$$16\pi$$

$$218\frac{2}{3}\pi \text{ m}^3$$

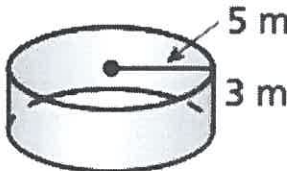
Composite Figures – removing part



Entire Cylinder



Cylinder-Shaped Hole



vol big
 $\pi r^2 h$
 $9^2 \cdot 3$

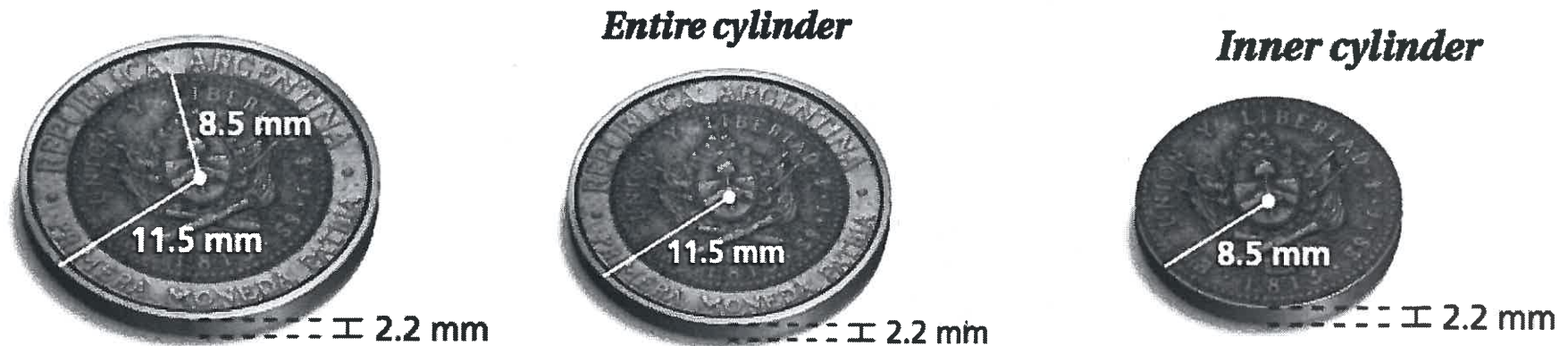
243π

Vol sm
 $\pi r^2 h$
 $5^2 \cdot 3$

75π

$168\pi \text{ m}^3$

Composite Figures: Find the volume of the silver part



Vol big

$$\pi r^2 h$$

$$\pi \cdot 11.5^2 \cdot 2.2$$

$$290.95\pi$$

Vol sm

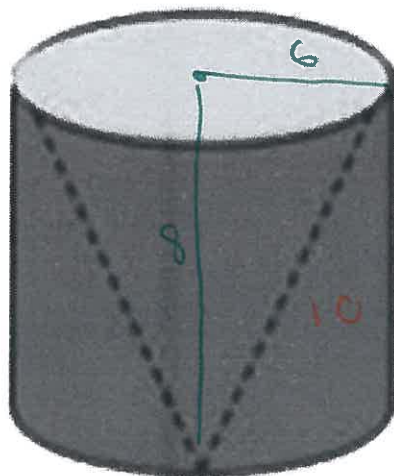
$$\pi r^2 h$$

$$\pi \cdot 8.5^2 \cdot 2.2$$

$$- 158.95\pi$$

$$132\pi \text{ mm}^3$$

This hollow mold is used to make solid chocolate cones (YUM!). What is the volume of the mold? What is the SA of the Mold?



Diameter = 12mm
Height = 8mm

VOLUME



$$\pi r^2 h$$

$$36 \cdot 8$$

$$288\pi$$



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

$$96\pi$$

$\frac{288\pi}{96\pi}$

$$\frac{2}{3} \pi r^2 h$$

$$36 \cdot 8$$

$$192\pi \text{ mm}^3$$

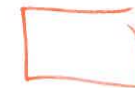
SA



$$\pi r l$$

$$6 \cdot 10$$

$$60\pi$$



$$\pi d h$$

$$96\pi$$

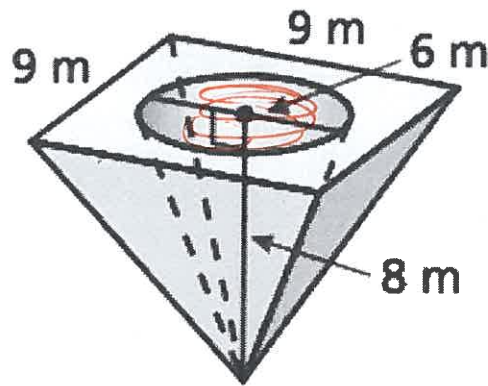


$$\pi r^2$$

$$36\pi$$

$$192\pi \text{ mm}^2$$

Composite Figures: Find volume using 3.14 for π



VOLUME

$$\frac{1}{3} Bh \quad \frac{1}{3} 9 \cdot 9 \cdot 8 \quad 216 m^3$$

$$- \frac{1}{3} Bh \quad \frac{1}{3} \pi \cdot 3^2 \cdot 8 \quad 24\pi \approx -75.36 m^3$$

$$140.64 m^3$$