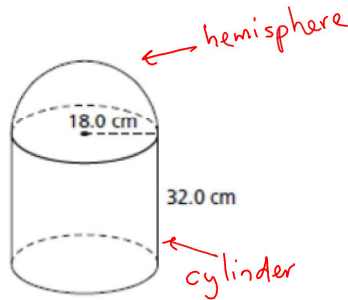


Lesson Six – Solving Problems Involving Objects

Example 1 – Determining the Volume of a Composite Object

Determine the volume of this composite object



Vol of hemisphere

$$\begin{aligned}
 V &= \frac{2\pi r^3}{3} \\
 &= \frac{2\pi(18)^3}{3} \\
 &= 12\,214.51224
 \end{aligned}$$

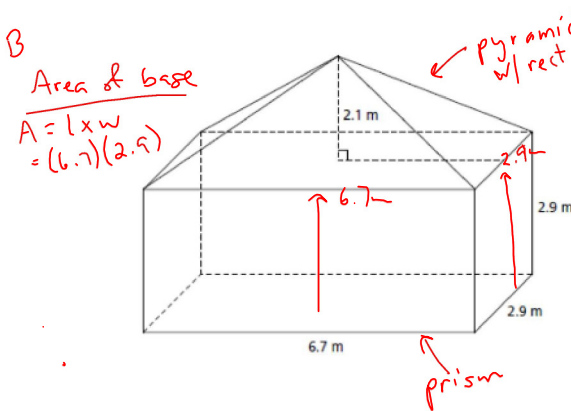
Vol of cylinder

$$\begin{aligned}
 V &= \pi r^2 h \\
 &= \pi(18)^2(32) \\
 &= 32\,572.032\dots
 \end{aligned}$$

$$\begin{aligned}
 \text{Total Volume} &= V_{\text{hemi}} + V_{\text{cyl}} \\
 &= 44\,786.545 \text{ cm}^3
 \end{aligned}$$

Example 2

Determine the volume of this composite object



V_{pyramid}

$$\begin{aligned}
 V &= \frac{Bh}{3} \\
 &= \frac{(6.7)(2.9)(2.1)}{3} \\
 &= 13.601 \text{ m}^3
 \end{aligned}$$

V_{prism}

$$\begin{aligned}
 V &= lwh \\
 &= (6.7)(2.9)(2.9) \\
 &= 56.347 \text{ m}^3
 \end{aligned}$$

$$\begin{aligned}
 \text{Total Volume} &= V_{\text{pyr}} + V_{\text{prism}} \\
 &= 69.948 \text{ m}^3
 \end{aligned}$$

Pg 59; 5 (only volume), 7 (a,c,d), 8, 9, 10