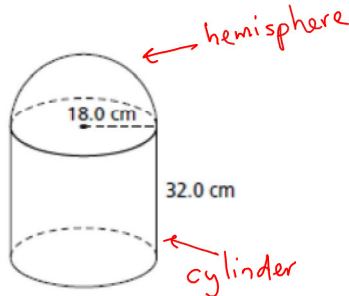


**Lesson Six – Solving Problems Involving Objects**

**Example 1 – Determining the Volume of a Composite Object**

Determine the volume of this composite object to the nearest tenth of a cubic centimeter.



Vol of hemisphere

$$V = \frac{4\pi r^3}{3} \div 2$$

$$= \frac{4\pi(18)^3}{3} \div 2$$

$$= 12\,214.51224$$

Vol of cylinder

$$V = \pi r^2 h$$

$$= \pi(18)^2(32)$$

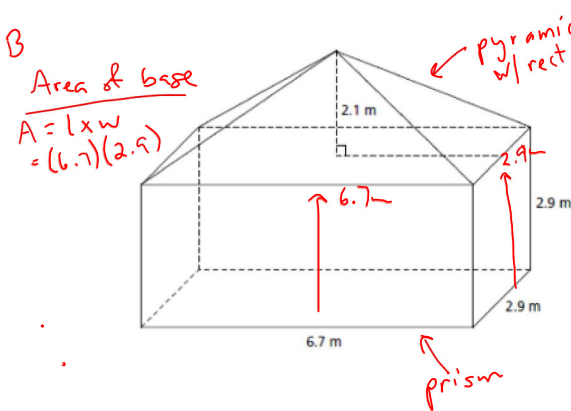
$$= 32\,572.032\dots$$

Total Volume =  $V_{\text{hemi}} + V_{\text{cyl}}$

$$= 44\,786.5\text{ cm}^3$$

**Example 2**

Determine the volume of this composite object to the nearest tenth of a cubic metre.



V<sub>pyramid</sub>

$$V = \frac{Bh}{3}$$

$$= \frac{(6.7)(2.9)(2.1)}{3}$$

$$= 13.601\text{ m}^3$$

V<sub>prism</sub>

$$V = lwh$$

$$= (6.7)(2.9)(2.9)$$

$$= 56.347\text{ m}^3$$

Total Volume =  $V_{\text{pyr}} + V_{\text{prism}}$

$$= 69.9\text{ m}^3$$

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