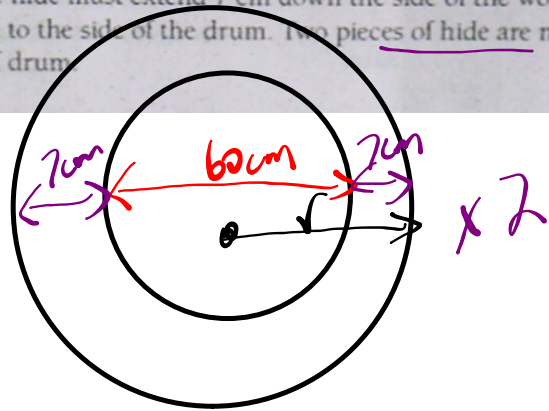


3. Eastern Eagle is a contemporary Mi'kmaq music group. The singers have been singing and drumming together since 1993. The musicians perform with large powwow drums and smaller hand drums. The drum, with its ability to mimic a heartbeat, is sacred to the Mi'kmaq people and is said to represent the centre of all life and creation.

Determine the amount of hide and wood needed to build a circular hide drum. The drum is a cylindrical prism with a diameter of 60 cm and a height of 35 cm. The hide must extend 7 cm down the side of the wooden frame to be attached to the side of the drum. Two pieces of hide are needed to make this kind of drum.

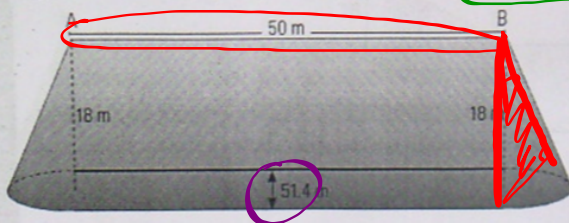


$$SA = 2\pi r^2$$

$$= 2\pi(37)^2$$

$$SA = 8601.7 \text{ cm}^2$$

7. An elongated stockpile of crushed ore, shown in the diagram, can be made by moving an ore conveyor along a straight track from A to B. The ends of the stockpile are half cones, and the centre portion is a triangular prism.



The stockpile is 50 m from A to B and is 18 m high. The width at the base is 51.4 m.

a) What volume of ore does the stockpile contain?

$d = 51.4 \text{ cm}$

$$V_{\text{cone}} = \pi r^2 h / 3$$

$$= \pi (51.4/2)^2 (18) / 3$$

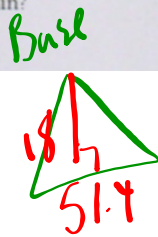
$$V = 37349.8 \text{ m}^3$$

$$V = 12449.9 \text{ m}^3$$

$$V_{\text{prism}} = A_{\text{base}} \times h$$

$$= \left(\frac{51.4 \times 18}{2} \right) \times 50$$

$$V = 23130$$



$$V_{\text{total}} = 12449.9 + 23130$$

$$= 35579.9 \text{ m}^3$$

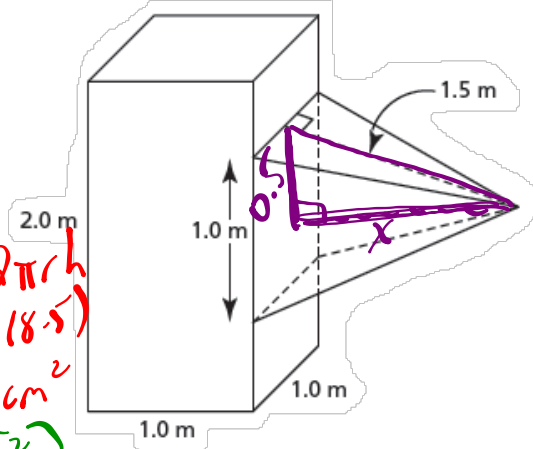
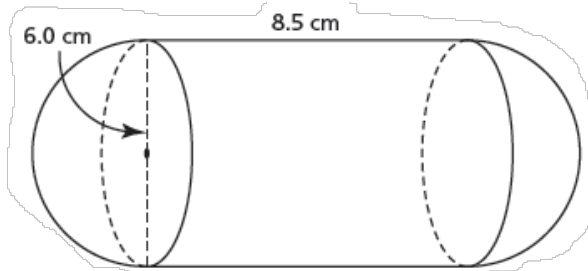
5. a) 273.3 cm², 353.4 cm³ b) 12.0 m², 2.5 m³

5. Determine the surface area and volume of each composite object.

Write the answers to the nearest tenth of a unit.

a) right cylinder and hemispheres

b) right square prism and right square pyramid



$$SA_{\text{sphere}} = 4\pi r^2$$

$$= 4\pi(3)^2$$

$$= 113.1 \text{ cm}^2$$

$$SA_{\text{cylinder}} = 2\pi r h$$

$$= 2\pi(3)(8.5)$$

$$= 160.2 \text{ cm}^2$$

$$SA_{\text{TOTAL}} = 273.3 \text{ cm}^2$$

$$V_{\text{sphere}} = \frac{4}{3}\pi r^3$$

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

$$= 113.1 \text{ cm}^3$$

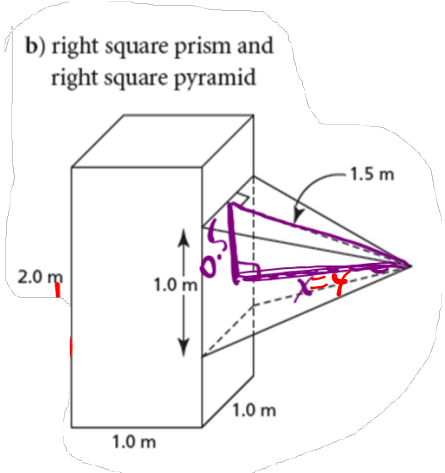
$$V_{\text{cylinder}} = \pi r^2 h$$

$$= \pi(3)^2(8.5)$$

$$= 240.3 \text{ cm}^3$$

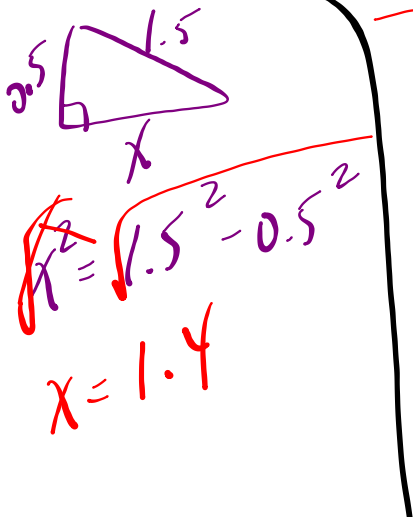
$$V_{\text{TOTAL}} = 353.4 \text{ cm}^3$$

1.7 Solving Problems Involving Objects



$$V_{\text{prism}} = 1(1)(2) = 2 \text{ m}^3$$

* Pyramid = $\frac{A_{\text{base}} \times \text{height}}{3}$



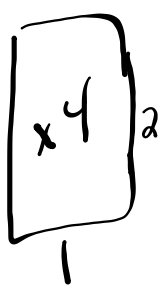
$$= \frac{(1 \times 1) \times 1.4}{3} = 0.47 \text{ m}^3$$

$$V_{\text{TOTAL}} = 2 + 0.47 = 2.47 \text{ m}^3$$

Prism

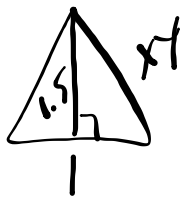


$$A = 1 \times 1 = 1$$



$$A = 1 \times 2 = 2$$

Pyramid:




$$SA_{\text{TOTAL}} = 9 + \frac{3}{2} = 12 \text{ m}^2$$

$$SA_{\text{TOTAL}} = 2(1) + 4(2) = 9 \text{ m}^2$$


$$SA_{\text{TOTAL}} = 4 \left(\frac{1 \times 1.5}{2} \right) = 3 \text{ m}^2$$

HOMEWORK...

 Worksheet - More Applications SA, Vol & Capacity.pdf

Unit Test is now on Friday!

 Chapter 6 Sample Test.pdf

 Chapter 6 Sample Test Answers.pdf

Attachments

[Chapter 6 Sample Test Answers.pdf](#)

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