

HW Questions from last Friday...

the timber to be a good estimate of the area to be painted:

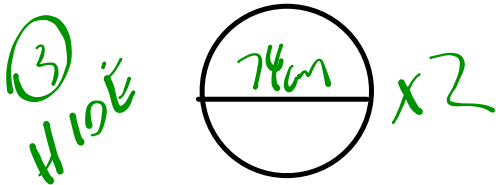
- Eastern Eagle is a contemporary Mi'kmaq music group. The singers have been singing and drumming together since 1993. The musicians perform with large powwow drums and smaller hand drums. The drum, with its ability to mimic a heartbeat, is sacred to the Mi'kmaq people and is said to represent the centre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



Eastern Eagle's CD *Rezonation* was nominated for the Best Aboriginal Recording of the Year at the 2009 Nova Scotia Music Awards.

- A grain stockpile cover in the shape of a cone has a diameter of 96 m and a height of 23 m. How much material is needed for the cover?



$$SA = \pi (37)^2 \times 2 = 8601.7 \text{ cm}^2$$

cm larger than the drum diameter, in order to reach 7 cm down the sides of the drum.

$$d = 60 + 14$$

$$d = 74 \text{ cm}$$

Calculate the area of the one circle of hide.

Multiply by 2 to calculate the amount of hide needed.

$$4300.5 \times 2 = 8601.7 \text{ cm}^2$$

The wood needed to build the drum is a rectangle. The width of the rectangle is equal to the height of the drum, 35 cm. The length of the rectangle is equal to the circumference of a circle with a diameter of 60 cm.

$$A = \ell w$$

$$A = (\pi d)w$$

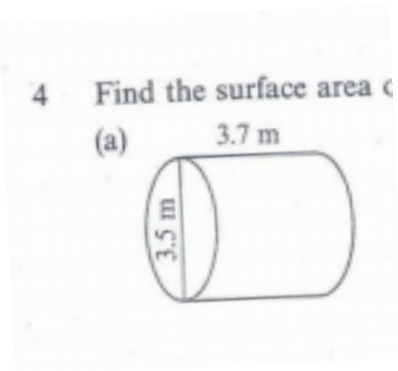
$$A = (\pi \times 60) \times 35$$

$$A \approx 6597.3 \text{ cm}^2$$

To build the drum, 8601.7 cm² of hide and 6597.3 cm² of wood are needed.

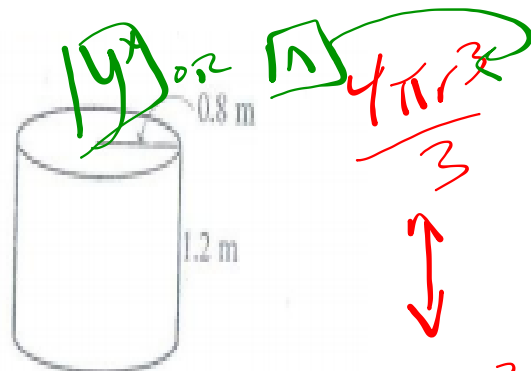
If students are interested in learning more about Eastern Eagle, or hearing their music, they can visit this website. www.myspace.com/easterneagle

HW Questions from Tuesday...



$$\begin{aligned}
 SA &= 2\pi r^2 + 2\pi r h \\
 &= 2\pi(1.75)^2 + 2\pi(1.75)(3.7) \\
 &= 59.93 \text{ m}^2
 \end{aligned}$$

- 8 The cylindrical container is full of liquid plastic.
- (a) Calculate the volume of liquid plastic.
- (b) Billiard balls, with a diameter of 5.7 cm, are made from the plastic. How many can be made from one container of liquid plastic?



a) $V = \pi(0.8)^2(1.2)$

$V = 2,41 \text{ m}^3 \times \frac{100 \text{ cm}^3}{1 \text{ m}^3}$

$V = 241000 \text{ cm}^3$

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

$= \frac{4}{3}\pi(2.85)^3$

$= 97 \text{ cm}^3$

of balls = $\frac{241000}{97}$

$= 24845 \text{ balls}$

HOMEWORK Questions???

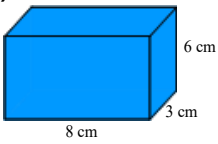
Woksheet - Volumes.pdf



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Exercise: Find the volume of each composite object...

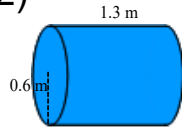
1)



$$V = 8(3)(6)$$

$$V = 144 \text{ cm}^3$$

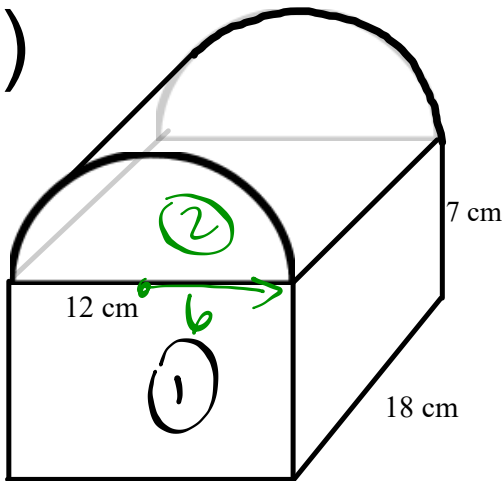
2)



$$V = \pi(0.6)^2(1.3)$$

$$V = 1.47 \text{ m}^3$$

3)



$$V_1 = 12(18)(7)$$

$$V_1 = 1512 \text{ cm}^3$$

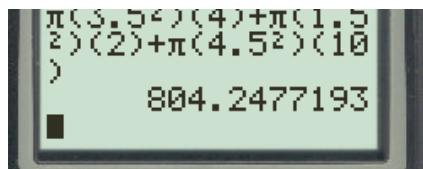
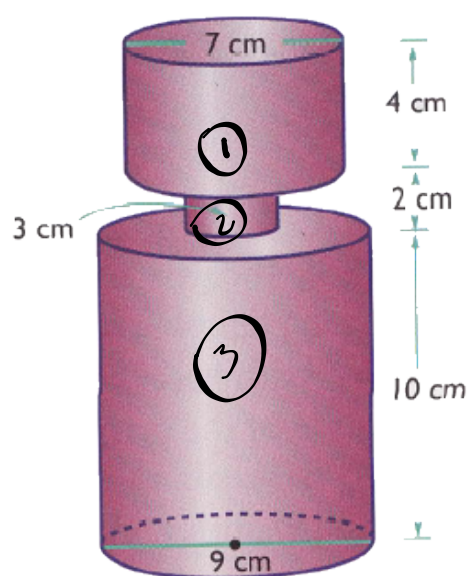
$$V_2 = \frac{\pi(6)^2(18)}{2}$$

$$V_2 = 1017.9 \text{ cm}^3$$

$$V_{\text{total}} = 1512 + 1017.9$$

$$V_{\text{total}} = 2529.9 \text{ cm}^3$$

4)



Monday...

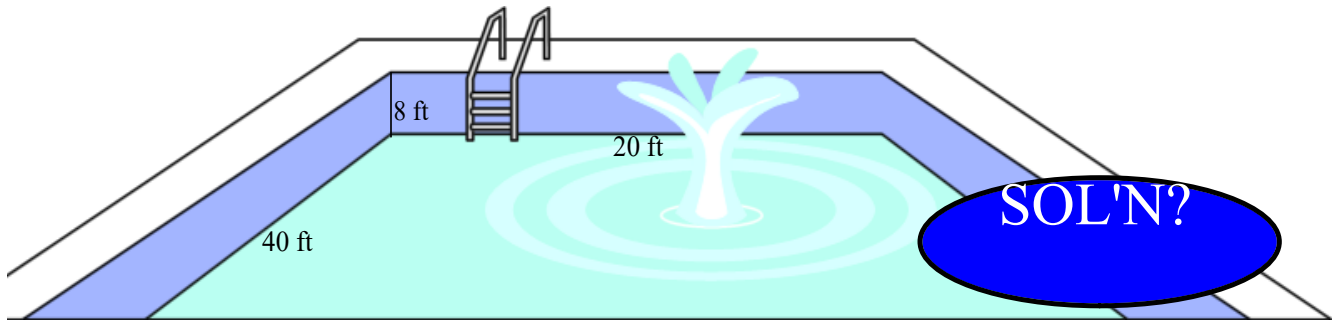
$$1 \text{ cm}^3 = 1 \text{ mL}$$

$$1 \text{ m}^3 = 1000 \text{ L}$$

$$1000 \text{ cm}^3 = 1 \text{ L}$$

Volume Application...

A swimming pool needs to be filled with water. It costs \$0.005/L to fill the pool. How much will it cost to fill the rest of the swimming pool?



$$V = 40(8)(20)$$

$$V = 6400 \text{ ft}^3 \times \frac{1 \text{ m}^3}{3.2808^3 \text{ ft}^3}$$

\$906.17

$$V = 181.23 \text{ m}^3 \times \frac{1000 \text{ L}}{1 \text{ m}^3}$$

$$V = 181234 \text{ L} \times \frac{\text{\$}0.005}{1 \text{ L}}$$

$$\text{Cost} = \text{\$}906.17$$

HOMEWORK:

p. 252 #1, 3, 5

p. 264 #1, 5, 7a

Attachments

Woksheet - Volumes.pdf