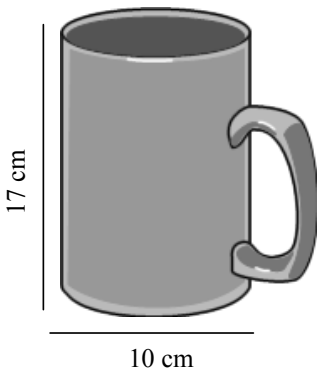


Warm Up...

Find the volume of these figures...

Solution???

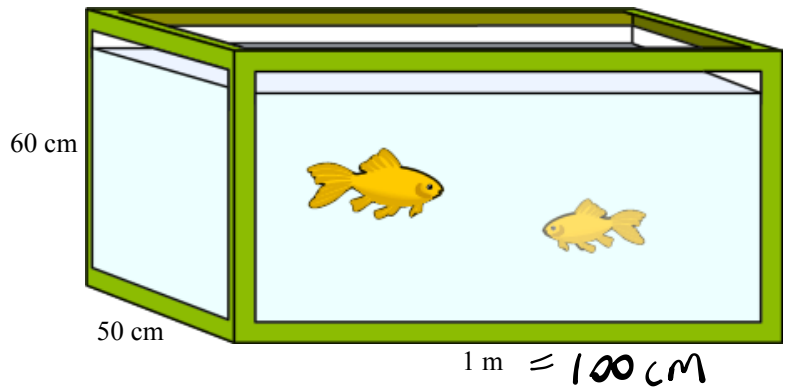


1335.2 cm³

```

π(5)2*17
1335.176878

```



300 000 cm³

OR

0.3 m³

```

100*50*60
300000

```

HW ???

11 The tent shown in the diagram has a sewn-in ground sheet. Find the amount of material used to make the tent if 0.3 m^2 of extra material is added for the seams.

$$A = \frac{1.6(1.1)}{2}$$

$$A = 0.88$$

$$A = 1.4(2.1)$$

$$= 2.94$$

$$A = 1.6(2.1)$$

$$= 3.36$$

$$SA_{\text{total}}$$

$$= 0.88(2)$$

$$+ 2.94(2)$$

$$+ 3.36$$

$$+ 0.3$$

$$= 11.3 \text{ m}^2$$

7. $\pi r s \Rightarrow A = 32.64 \text{ cm}^2$

$s = 2.81$

$r = ?$

$A = \pi r s$

$$\frac{32.64}{\pi(2.81)} = \frac{\pi(r)(2.81)}{\pi(2.81)}$$

$3.7 = r$

$r = 3.7 \text{ cm}$

Volume versus Capacity

- | | | |
|---|--|--|
| <ul style="list-style-type: none">- amount of space an object takes up.- all objects have volume.- measured in cubed units. | | <ul style="list-style-type: none">- amount of material that can be contained in a hollow volume.- measured in such as litres and gallons. |
|---|--|--|

* hollow objects have volume and capacity while solid objects only have volume.

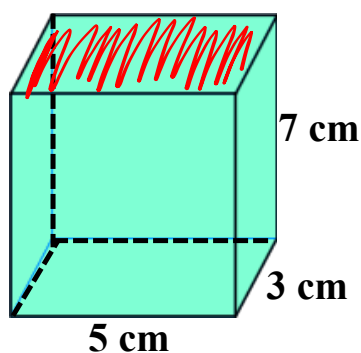
Remember...

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

How Volume and Capacity are Related

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

Finding the Volume of a Rectangle Prisms...



$$V = l \times w \times h$$

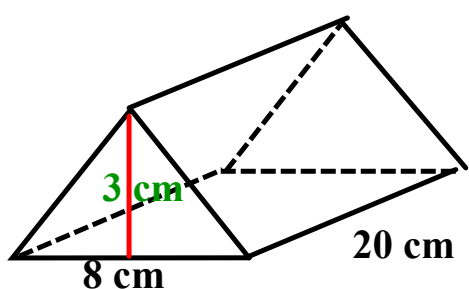
$$V = A_{\text{base}} \times \text{height}$$

$$V = 5(3)(7)$$

$$V = 105 \text{ cm}^3$$

Formula???

Finding the Volume of a Triangle Prism...



$V = A_{\text{base}} \times \text{height}$

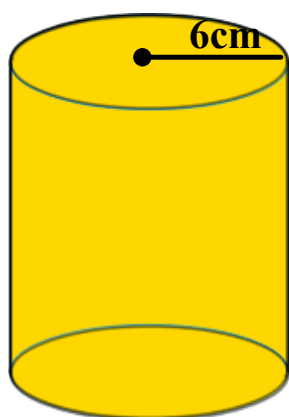
↙ Triangle

$= \frac{8(3)}{2} \times 20$

$= 240 \text{ cm}^3$



Finding the Volume of a Cylinder...



$$V = A_{\text{base}} \times \text{height}$$

$$= \pi r^2 h$$

8 cm

$$= \pi(6)^2 \cdot 8$$

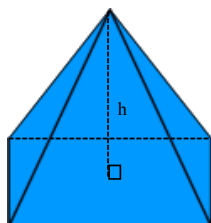
$$= 904.7786842$$

904.8 cm³



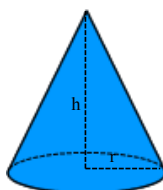
VOLUME FORMULAS...

Pyramid



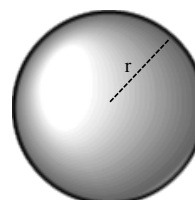
$$V_{\text{pyramid}} = \frac{A_{\text{base}} \times \text{height}}{3}$$

Cone



$$V_{\text{cone}} = \frac{A_{\text{base}} \times \text{height}}{3}$$
$$= \frac{\pi r^2 h}{3}$$

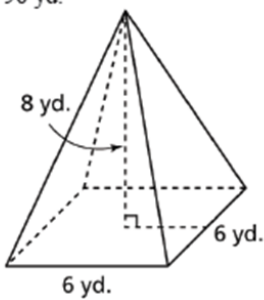
Sphere



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

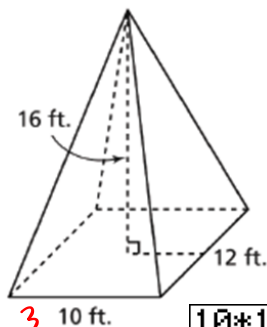
EXERCISE: Find the volume of each of the following pyramids...

a) 96 yd.^3



$$6^2 * 8 / 3 = 96$$

b) 640 ft.^3



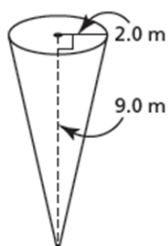
$$10 * 12 * 16 / 3 = 640$$

← ● ERASE to get solution

3 yd 3 ft^3

EXERCISE: Find the volume of each of the following cones...

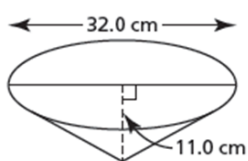
a) 37.7 m^3



$$\pi(2)^2 * 9 / 3$$

$$37.69911184$$

b) 2948.9 cm^3



← ● ERASE to get solution

$$\pi(16^2) * 11 / 3$$

$$2948.908304$$

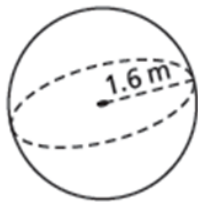
EXERCISE: Find the volume of each of the following spheres...

1) 17 m^3

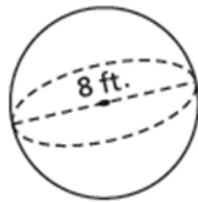
2) 268 ft.^3

← ● ERASE to get solution

b)



c)



```

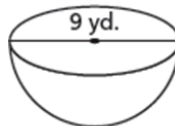
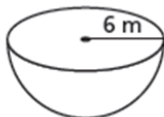
4π(1.6)^3/3
17.15728468
4/3π(8)^3
268.0825731
■
    
```

EXERCISE: Find the volume of each of the following hemispheres...

1) 452 m^3

2) 191 yd.^3


← ● ERASE to get solution



```

4/3π(6)^3/2
452.3893421
4/3π(9)^3/2
190.8517537
■
    
```

HOMEWORK...

 Woksheet - Volumes.pdf

Attachments

Woksheet - Volumes.pdf