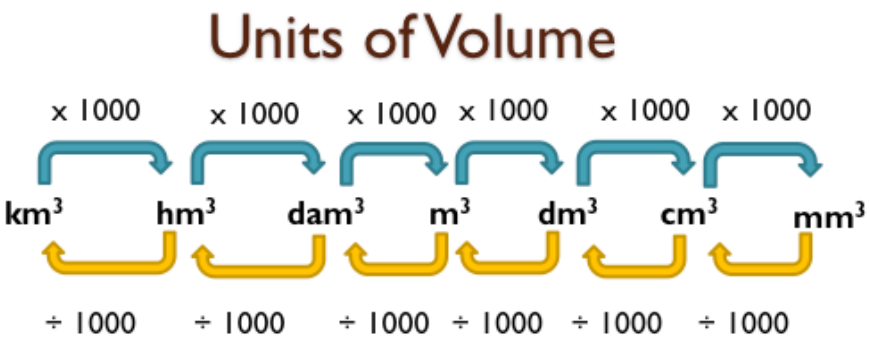
World 7-1 Converting Units of Volume



1) Convert the units of volume

a) 3.4 m^3 = _____ mm^3

b) 0.03 cm^3 = _____ mm^3

c) 2 dam^3 = _____ dm^3

d) 0.0067 km^3 = _____ mm^3

e) 5 m^3 = _____ cm^3

f) 7200 mm^3 = _____ cm^3

g) 0.002 dm^3 = _____ cm^3

h) 4.7 m^3 = _____ dam^3

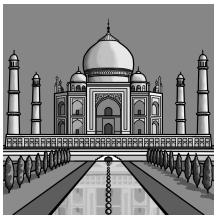
2) Convert the following units

a) 4.3 cm^3 + 200 mm^3 + 0.0006 m^3 = _____ m^3

b) 1.1 m^3 + 0.000 003 hm^3 + 5300 000 cm^3 = _____ m^3

c) 36 dm^3 + 0.045 m^3 + 4.5 x 10^{-9} km^3 = _____ m^3

3) The Taj Mahal has a volume of 320 000 m^3, determine this in km^3

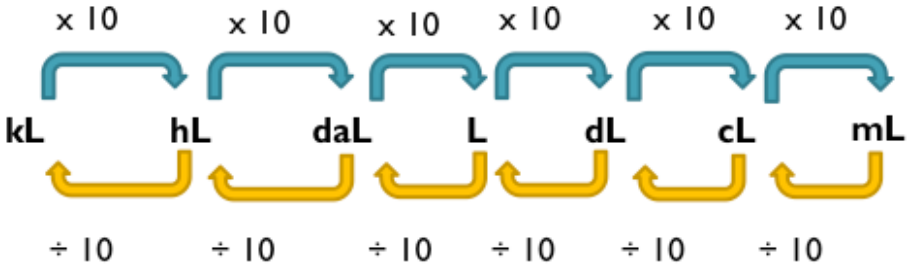


4) Person Airport in Toronto has an internal volume of 2.8 million m^3.

How many cm^3 is this. Keep your answer in scientific notation.

World 7-2 Units of Capacity

Units of Capacity



1 dm^3 = 1 L 1 m^3 = 1000 L 1000 mL = 1 L

1) Convert the units of volume to the required unit

a) 5.3 *L* = _____ *dL* b) 0.08 *L* = _____ *mL*

c) 86 *cL* = _____ *L* d) 5 k*L* = _____ *daL*

e) 0.08 da*L* = _____ *hL* f) 0.002 *dL* = _____ *kL*

g) 0.04 *L* = _____ *daL* h) 38 c*L* = _____ *dL*

2) Convert these metric units to Litres

a) 1 dm^3 = _____ L b) 1200 cm^3 = _____ *L* c) 3 m^3 = _____ *L*

3) Convert these metric units to *mL*

a) 20 cm^3 = _____ m*L* b) 2.1 dm^3 = _____ m*L*

4) Rank the volumes in order of smallest (1) to largest (4)

a) 0.003 kL	30 cL	5 L	490 mL
b) 53 cm^3	81 mL	0.073 L	0.0005 hL

5) A dump truck contains 55 m^3 of top soil. How many cL is this? _____ cL

6) A giant bowl of punch is completely full of the liquid from twelve 400 cL boxes of fruit punch. What is the capacity of the bowl of punch in L? _____ L

World 7.3 Volume of Spheres, Prisms and Cylinders

1) Calculate the **volume** of each object. Remember to SHOW ALL work and include units!

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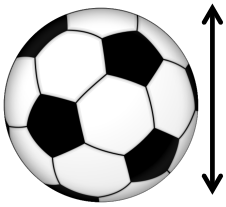
a)

Radius = 17 cm

b)



c)

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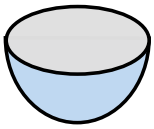
d) Bowl soup with a radius 9 cm.



e) The circumference of Jupiter is $.5 \times 10^5$ km. Hint: $c=\pi d$

f) How many Earths fit inside Jupiter. Keep answer in scientific notation

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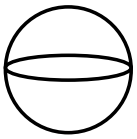
g)



r = 5 dm. Determine the volume in cm^3

h)

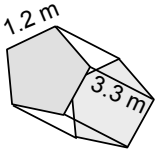
a = 6 cm

i) 12 half oranges are eaten at half-time at a soccer game.

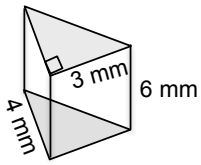
The radius of each are 3 cm. What is the total volume of the oranges?

2) Determine the volume of each of these prisms.

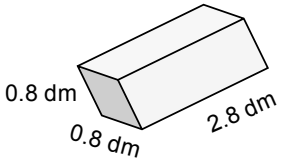
a) Apothem is 1.65 m



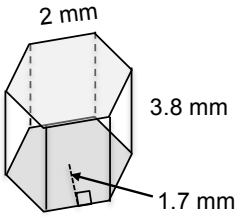
b)



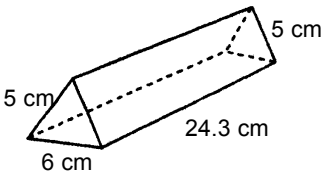
c)



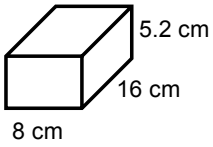
d)



e)

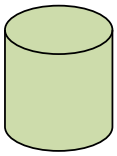


f)



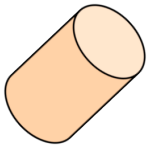
3) Calculate the volume of these cylinders

a)



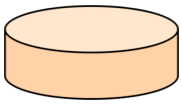
Radius = 3 dm
Height = 5 dm

b)



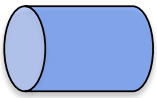
Diameter = 6.2 cm
Height = 7.4 cm

c)



Area of base = 314 m^2
Height = ½ the radius

d)

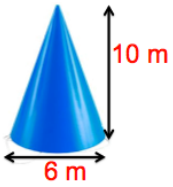


Radius = 8 dm
Height = 24 dm

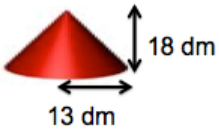
World 7.4 Volume of Cones, Pyramids and Cubes

1) Calculate the volume of these cones

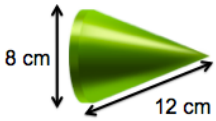
a)



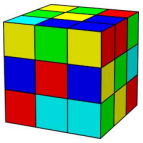
b)



c)

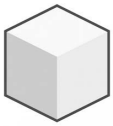


2) Determine the volume of these cubes in their respective units.



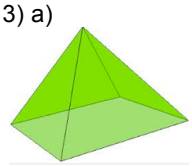
a) Side length: 5.7 cm

b) Perimeter of Base: 3.2 cm



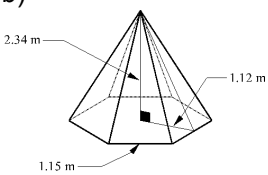
c) Area of Base: 25 mm^2

3) a)



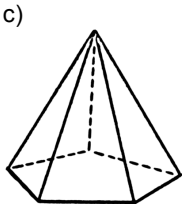
Area of Base: 16 m^2
Height: 12 m

b)



Height: 2.34 m
Side Length: 1.15 m
Apothem 1.12 m

c)

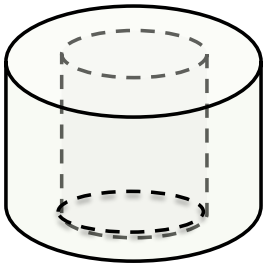


Apothem: 3.44 mm
Slant length: 5,7 mm
Height: 8 mm

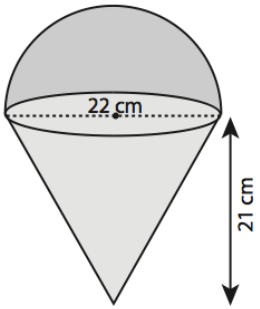
World 7.5 Volume of Decomposable Solids

1) Calculate the volume of these 3 decomposable solids

a) The outer cylinder has a radius of 6 m. The inside radius is 4 m. The inside cylinder has been cut out of the larger cylinder. The height is 7 m.



b) This is an ice cream cone.



c) A castle made of cheese will be a new home for a mouse. The tunnel is cut out of a half cylinder and a prism