Geometry, Measurement and Finance 10 **Name: _____**

Chp. 6 Test – Surface Area, Volume and Capacity **Oct. 2015**

Multiple Choice (10 Marks)

Circle the letter corresponding to the correct solution,

1. Which figure is **NOT** three-dimensional?

[A] triangular prism [B] cube [C] cylinder [D] circle

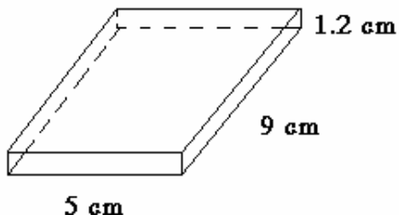
2. Find the volume of a cube 5 meters on each side.

[A] 30 m^3 [B] 25 m^3 [C] 133 m^3 [D] 125 m^3

3. Find the volume of the rectangular prism as shown…

[A] 54 cm^3 [B] 60.8 cm^3

[C] 55.8 cm^3 [D] 61.8 cm^3



4. Find the volume of a cone that has a radius of 5 cm and a height of 29 cm.

[A] 2277.7 cm^3 [B] 9110.6 cm^3 [C] 759.2 cm^3 [D] 3036.9 cm^3

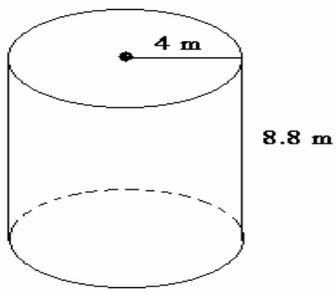
5. The volume of a cylindrical can is 169.6 cm^3. If the radius is 3 cm, find the height of the can.

[A] 6.0 cm [B] 1.5 cm [C] 18.0 cm [D] 3.0 cm

6. Find the surface area of the given cylinder to the nearest square unit.

[A] 35 m^2 [B] 161 m^2

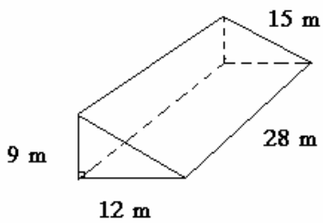
[C] 51 m^2 [D] 322 m^2



7. Calculate the surface area of the right triangular prism as shown…

[A] 990 m^2 [B] 1116 m^2

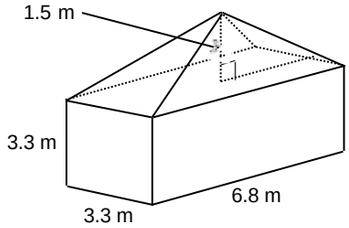
[C] 1512 m^2 [D] 3024 m^2



8. Determine the volume of this composite object, which is a right square prism and a right rectangular pyramid, to the nearest tenth of a cubic metre.

[A] 85.3 m^3 [B] 107.7 m^3

[C] 90.7 m^3 [D] 514.8 m^3



9. What is the surface area of a box with no lid that is 75 cm long, 0.4 m wide, and 200 mm high?

[A] 7600 cm^2 [B] 10 600 cm^2 [C] 30 220 cm^2 [D] 5700 cm^2

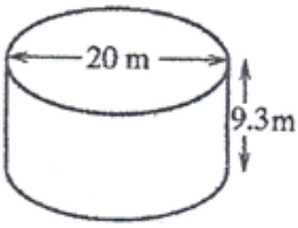
10. Convert the following… 42 ft^2 = ____ m^2

[A] 3.9 m^2 [B] 4.3 m^2 [C] 5.6 m^2 [D] 12.8 m^2

Open Response (30 Marks)
Show ALL your work in the space provided. Put a box around your final solution and be sure to include units.

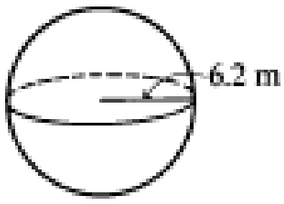
1. Determine the **surface area and volume** for each of the following figures: [16]

a)



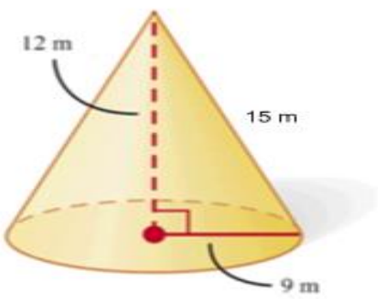
Surface Area = _____ Volume = _____

b)



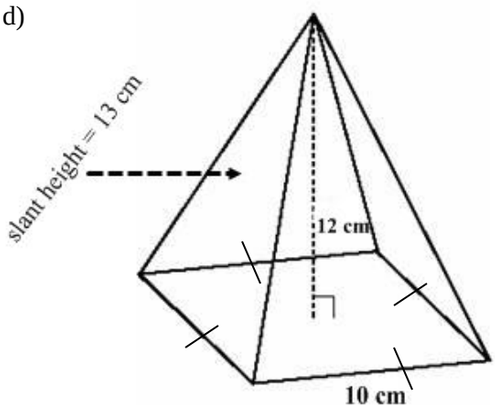
Surface Area = _____ Volume = _____

c)



Surface Area = _____ Volume = _____

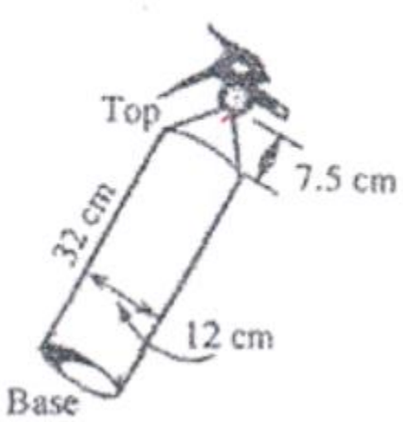
d)



Surface Area = _____ Volume = _____

2. A fire extinguisher is in the form of a cylinder with a conical top as shown…

a) Determine the volume of chemical that this extinguisher will hold. [4]



b) How many **litres** of chemical does this extinguisher contain? [1]

3. Mr. Bean purchases a cone of ice cream which has a radius of 2 inches and a height of 4.5 inches. How much ice cream will he get if the inside of the cone is filled and the top of the cone is the shape of a hemisphere? [4]

4. The Alaska Pipeline, finished in 1977, was created to move oil from the North Slope Oil Fields to the ice-free port of Valdez, Alaska. It is 800 miles long and 4 feet in diameter.

a) What is **the volume of oil in cubic feet** contained in the pipeline? [3]

b) How much steel was needed to make the Alaska Pipeline? [2]