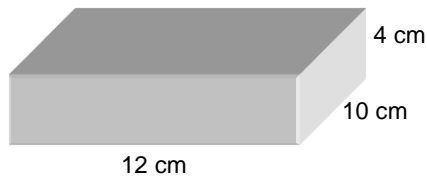


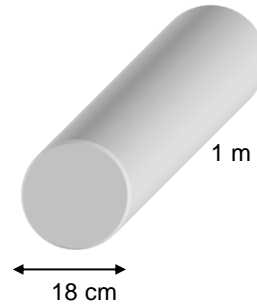
Volume Problems

1. Find the volume of each shape below.

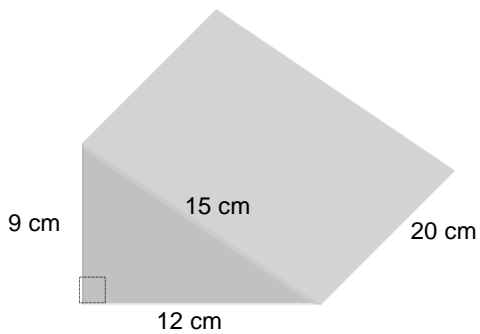
a.



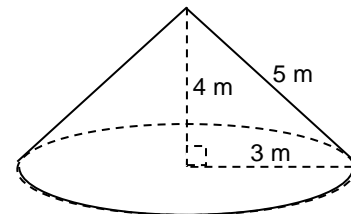
b.



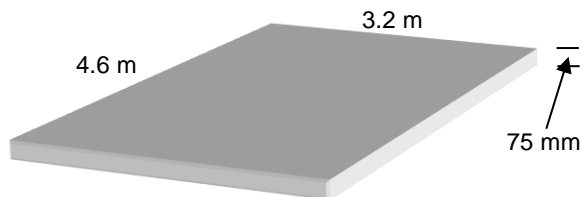
c.



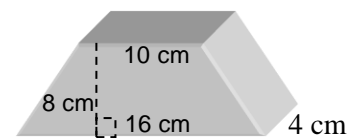
d.



e.



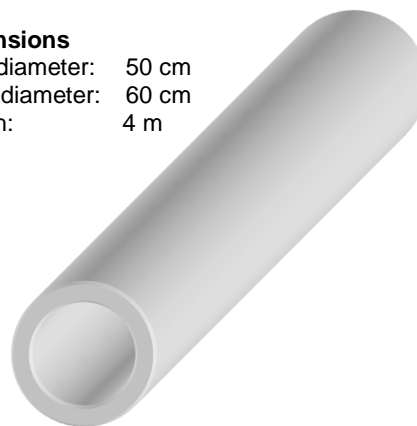
f.



2. Find the volume of steel needed to make the steel pipe below.

Dimensions

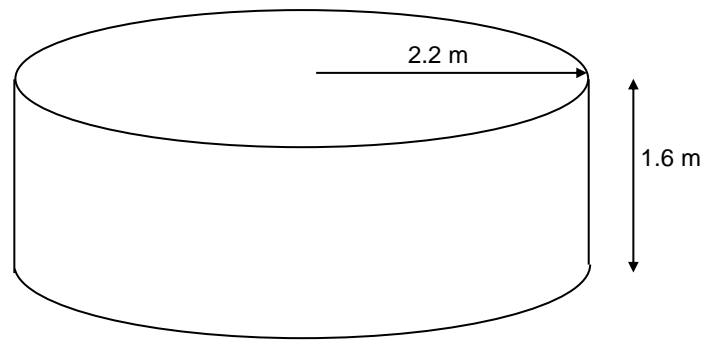
Inner diameter: 50 cm
Outer diameter: 60 cm
Length: 4 m



Answers
1 a. 480 cm^3 b. $25\,447 \text{ cm}^3$ c. 1080 cm^3 d. 37.7 m^3 e. 1.10 m^3 f. 416 cm^3
2. 0.35 m^3

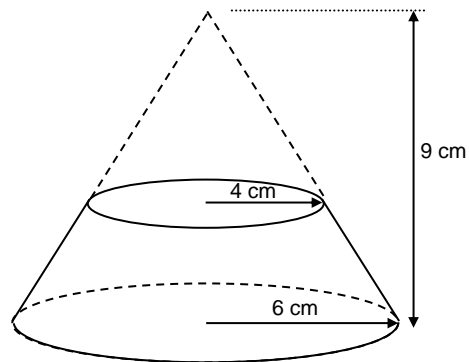
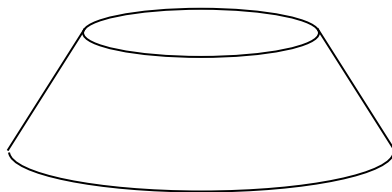
Volume Problems - Harder

1. a. A rainwater tank with radius 2.2 metres was almost empty when a storm raised the water level by 6 cm. How much water was collected from this storm?
- b. The tank contains 1000 litres of water. What is the depth of the water?
- c. A dipstick is a stick with markings on it that indicates the amount of liquid remaining in a tank. To use a dipstick, you put it into the tank vertically until it touches the bottom. You pull it out and note the level of the fuel.

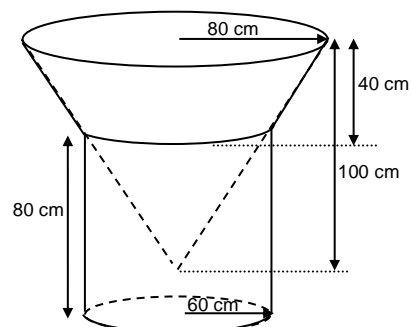
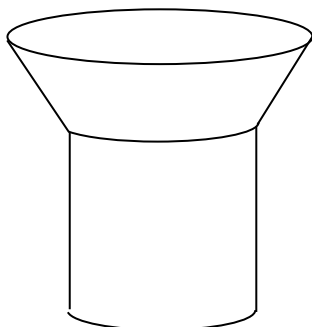


Use the paper tape provided to make a dipstick for this rain water tank.

2. A beaker with a diameter of 14 cm and a height of 12 cm is about half filled with water. A ball bearing with a diameter of 4 cm is dropped into the beaker. This causes the water level to rise. By how much?
3. Find the volume of the **truncated cone** shown in the diagram on the left. Dimensions are given in the diagram on the right.



4. Find the volume of the shape on the left. Dimensions are given in the diagram on the right.



5. The object above is a storage tank for fuel. Make a dipstick for this fuel storage tank (using paper tape).

Selected Answers: 1a. 912 liters b. 6.5 cm 2. 2.2 cm 3. 239 cm³ 4. 1430221 cm³.

Volume of a Cylinder

Take two sheets of A4 paper. Roll one into a short cylinder. Roll one into a tall cylinder. Which would hold the most popcorn? How much more? Express your answer a) as a volume b) as a percent.