

Question 1

A measuring cylinder contains 40 cm^3 of water.

A solid metal ball is dropped into the water and the water level rises to 56 cm^3 .

The mass of the ball is 80 g.

What is the density of the metal from which the ball is made?

- A** 0.20 g/cm^3 **B** 1.4 g/cm^3 **C** 2.0 g/cm^3 **D** 5.0 g/cm^3

Question 2

A small bottle has a mass of 20 g when empty. The volume of the bottle is 10 cm^3 .

When full of liquid, the total mass is 150 g.

What is the density of the liquid?

- A** 0.50 g/cm^3 **B** 2.0 g/cm^3 **C** 13 g/cm^3 **D** 15 g/cm^3

Question 3

A rectangular swimming pool is 50m long and 25m wide.

It contains water at a depth of 2m.

The density of the water is 1000 kg/m^3 .

What is the mass of the water in the pool?

- A** 2.5kg **B** 2500kg **C** 77 000kg **D** 2500 000kg

Question 4

A solid is heated causing it to expand.

What effect does this have on its mass and on its density?

	mass	density
A	decreases	decreases
B	decreases	stays constant
C	stays constant	decreases
D	stays constant	stays constant

Question 5

The mass of an empty flask is 34 g.

The volume of liquid added to the flask is 20 cm³.

The total mass of the flask and the liquid is 50 g.

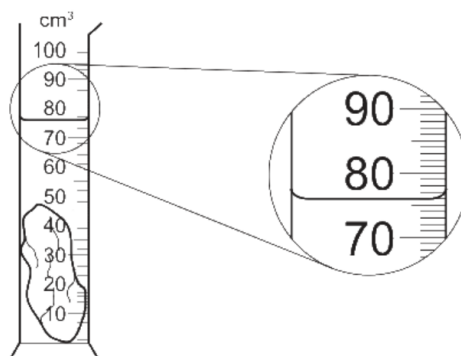
What is the density of the liquid?

- A** 0.80g/cm³ **B** 1.25g/cm³ **C** 2.50g/cm³ **D** 4.20g/cm³

Question 6

A measuring cylinder contains 40 cm³ of water.

A stone of mass 94 g is lowered into the water so that it is fully submerged as shown.



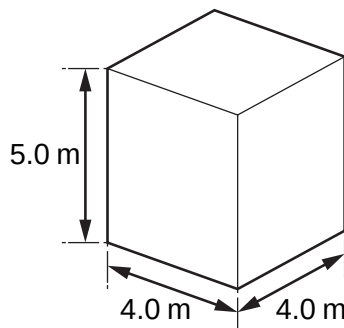
What is the density of the stone?

- A** 1.1g/cm³ **B** 1.2g/cm³ **C** 2.1g/cm³ **D** 2.6g/cm³

Question 7

The tank shown has the dimensions $5.0 \text{ m} \times 4.0 \text{ m} \times 4.0 \text{ m}$.

It is completely filled with water of density 1000 kg / m^3 .

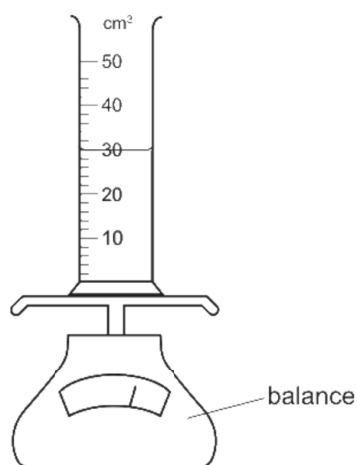


What is the mass of water in the tank?

- A** 12.5 kg **B** 62.5 kg **C** 16 000 kg **D** 80 000 kg

Question 8

A measuring cylinder contains 30 of a liquid.



Some more of the liquid is added until the liquid level reaches the 50 cm^3 mark.

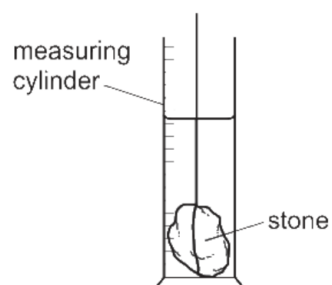
The reading on the balance increases by 30 g.

What is the density of the liquid?

- A** 0.60 g/cm^3 **B** 0.67 g/cm^3 **C** 1.5 g/cm^3 **D** 1.7 g/cm^3

Question 9

A student determines the density of an irregularly shaped stone. The stone is slowly lowered into a measuring cylinder partly filled with water.



Which other apparatus does the student need to calculate the density of the irregularly shaped stone?

- A** a balance
- B** a thermometer
- C** a metre rule
- D** a stop-watch

Question 10

Which two quantities must be known to determine the density of a material?

- A** mass and area
- B** mass and volume
- C** weight and area
- D** weight and volume

Question 11

The mass of an object is 2.5kg. The volume of the object is 480 cm³.

What is the density of the object?

- A** $5.2 \times 10^{-3} \text{ g/cm}^3$
- B** 5.2 g/cm^3
- C** 190 g/cm^3
- D** $1.2 \times 10^3 \text{ g/cm}^3$