

Density, Mass and Volume

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **26**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

- 1** A bar of soap has a volume of 80 cm^3
The mass of the bar of soap is 92 g.
Work out the density of the soap.

..... g/cm^3
(2)

(Total for Question 1 is 2 marks)

- 2** A bar of chocolate is a cuboid 15 cm long, 6 cm wide and 1.2 cm thick.
The density of the chocolate is 1.3 g/cm^3
Work out the mass of the bar of chocolate.

..... g
(3)

(Total for Question 2 is 3 marks)

- 3** A jar contains 0.5 kg of honey.
The density of honey is 1.42 g/cm^3
Work out the volume of honey in the jar.
Give your answer correct to 3 significant figures.

..... cm^3
(3)

(Total for Question 3 is 3 marks)

- 4** A solid block of aluminium is in the shape of a cuboid.
The base of the block is 4 cm by 6 cm.
The block has a mass of 648 g.
The density of aluminium is 2.7 g/cm^3

Work out the height of the block.

..... cm
(3)

(Total for Question 4 is 3 marks)

- 5** Ines is a jeweller.
She has 1 kg of silver.
The density of silver is 10.5 g/cm^3
Ines makes silver pendants.
Each pendant uses 2.4 cm^3 of silver.

Work out the greatest number of pendants Ines can make.

.....
(4)

(Total for Question 5 is 4 marks)

- 6** A candle is a solid cylinder with radius 3.5 cm and height 12 cm.
The candle is made from wax.
The density of the wax is 0.9 g/cm^3

Work out the mass of the candle.
Give your answer correct to 3 significant figures.

..... g
(3)

(Total for Question 6 is 3 marks)

- 7** Leo mixes 1.2 kg of white paint with 0.35 kg of blue paint.
The density of the white paint is 1.5 g/cm^3
The density of the blue paint is 1.4 g/cm^3

Work out the density of the paint Leo makes.
Give your answer correct to 2 decimal places.

..... g/cm^3
(4)

(Total for Question 7 is 4 marks)

- 8** A measuring jug contains 350 cm^3 of water.
30 identical steel ball bearings are put into the jug.
The ball bearings sink to the bottom and are completely covered by the water.
The water level rises to 370 cm^3
Each ball bearing has a mass of 5.2 g.

Work out the density of the steel.
You must show all your working.

..... g/cm^3
(4)

(Total for Question 8 is 4 marks)
