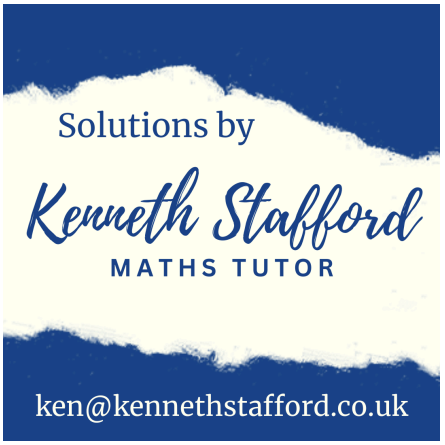
Name: SOLUTIONS

GCSE (1 - 9)

Density (Foundation Papers)

Buy me a coffee



These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk

Question	Where the question appeared
1	Edexcel, GCSE, Autumn 2017, Paper 3F, Q21
2	Edexcel, GCSE, Autumn 2020, Paper 3F, Q29
3	Edexcel, GCSE, Summer 2017, Paper 3F, Q20
4	Edexcel, GCSE, Summer 2022, Paper 1F, Q29
5	Edexcel, GCSE, Summer 2023, Paper 3F, Q27

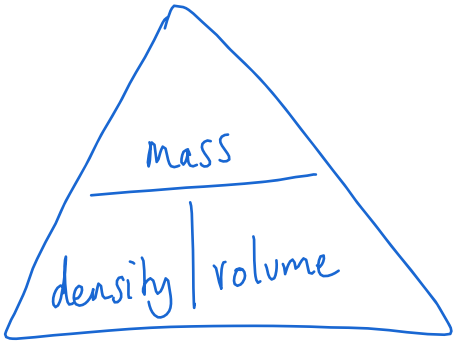
1

A gold bar has a mass of 12.5 kg.

12·5kg = 12,500g

The density of gold is 19.3 g/cm³

Work out the volume of the gold bar.
Give your answer correct to 3 significant figures.



volume = mass / density

volume = 12,500 / 19·3 = 647·668

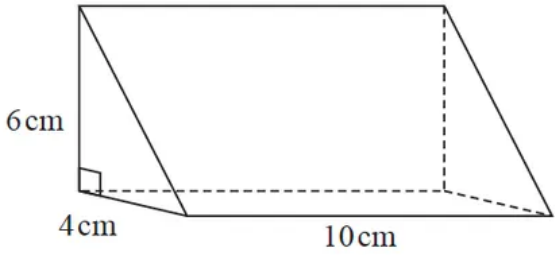
648 cm³

(Total for Question 21 is 3 marks)

[Edexcel, GCSE, Autumn 2017, Paper 3F, Q21]

2

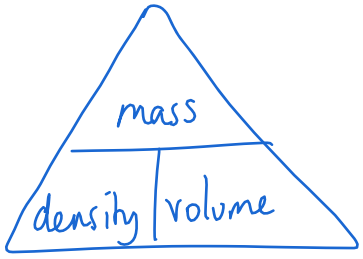
The diagram shows a solid triangular prism.



The prism is made from wood with a density of 0.8 g/cm³

Work out the mass of this prism.

Volume = $\frac{6 \times 4}{2} \times 10 = 120 \text{cm}^3$



mass = density × volume

= 0·8 × 120

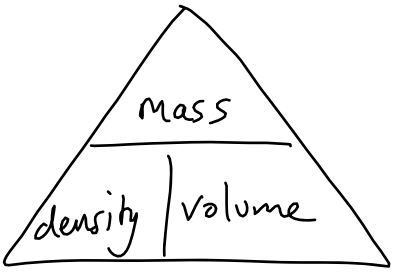
= 96

96 g

(Total for Question 29 is 3 marks)

[Edexcel, GCSE, Autumn 2020, Paper 3F, Q29]

3



The density of apple juice is 1.05 grams per cm^3.

The density of fruit syrup is 1.4 grams per cm^3.

The density of carbonated water is 0.99 grams per cm^3.

25 cm^3 of apple juice are mixed with 15 cm^3 of fruit syrup and 280 cm^3 of carbonated water to make a drink with a volume of 320 cm^3.

Work out the density of the drink.
Give your answer correct to 2 decimal places.

	Density	Mass	Volume
Apple Juice	1.05	$1.05 \times 25 = 26.25$	25
Fruit Syrup	1.4	$1.4 \times 15 = 21$	15
Carbonated Water	0.99	$0.99 \times 280 = 277.2$	280
Drink	$\frac{324.45}{320} = 1.0139$	324.45	320

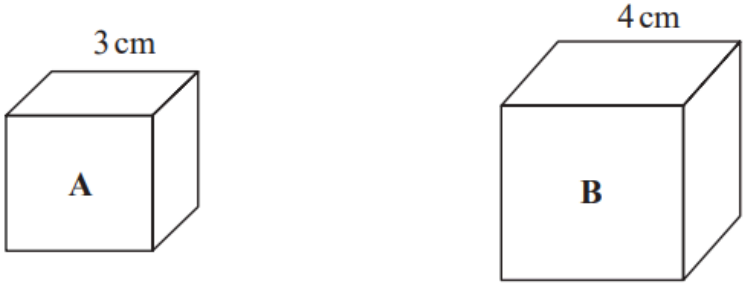
1.01 ..... g/cm^3

(Total for Question 20 is 4 marks)

[Edexcel, GCSE, Summer 2017, Paper 3F, Q20]

4

Here are two cubes, **A** and **B**.



Cube **A** has a mass of 81 g.

Cube **B** has a mass of 128 g.

density = mass / volume

Work out

the density of cube **A** : the density of cube **B**

Give your answer in the form $a : b$, where a and b are integers.

A

Volume = $3^3 = 27 cm^3$

Mass = 81g

Density = $\frac{81}{27} = 3 g/cm^3$

B

Volume = $4^3 = 64 cm^3$

Mass = 128g

Density = $\frac{128}{64} = 2 g/cm^3$

3 : 2

(Total for Question 7 is 3 marks)

[Edexcel, GCSE, Summer 2022, Paper 1F, Q29]

5

A solid cuboid is made of metal.

The metal has a density of 9 g/cm^3
The volume of the cuboid is 72 cm^3

Work out the mass of the cuboid.

density = mass / volume

mass = density × volume

9 x 72 = 648 ..... g

(Total for Question 27 is 2 marks)

[Edexcel, GCSE, Summer 2023, Paper 3F, Q27]