THIRD SPACE LEARNING

GCSE Exam Questions

Density | Ratio & Proportion

GCSE Exam Questions: Density

1) Iron has a density of $7.8g/cm^3$.

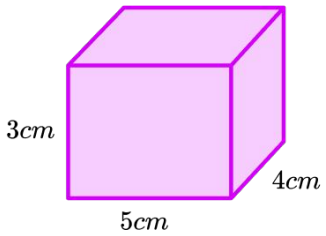
A solid iron statue has a mass of $877.5g$.

Work out the volume of the statue.

.....cm^3

(2 marks)

2) The diagram shows a wooden block with density $7g/cm^3$.



NOT drawn accurately

Calculate the mass of the cube.

.....g

(3 marks)

GCSE Exam Questions: Density

3) **(a)** Iron has a density of $7.8g/cm^3$.

Calculate the mass of a $3cm^3$ lump of iron.

.....g

(2)

(b) Aluminium has a density of $2.7g/cm^3$.

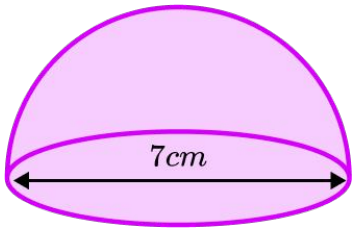
Calculate the difference between the volume of a $5g$ lump of iron and a $5g$ lump of aluminium.

.....cm^3

(3)

(5 marks)

4) Below is a solid glass paperweight.



The paperweight is a hemisphere with diameter $7cm$.

The glass has a density of $3g/cm^3$.

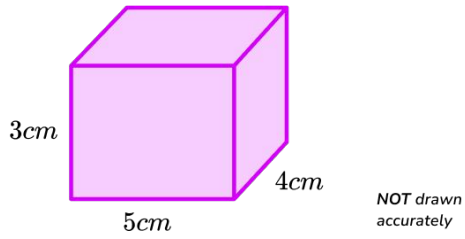
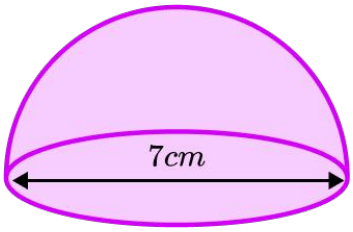
Calculate the mass of the paperweight.

Give your answer correct to 3 significant figures.

.....

(4 marks)

GCSE Exam Questions: Density Answers

	Question	Answer	Marks
1)	Iron has a density of $7.8g/cm3$. A solid iron statue has a mass of $877.5g$. Work out the volume of the statue.	$877.5 \div 7.8$ $112.5cm^3$	**(1)** **(1)**
2)	The diagram shows a wooden block with density $7g/cm^3$.  Calculate the mass of the cube.	Volume = $60cm^3$ 60×7 $420g$	**(1)** **(1)** **(1)**
3) (a)	Iron has a density of $7.8g/cm^3$. Calculate the mass of a $3cm^3$ lump of iron.	**(a)** 7.8×3 $23.4g$	**(1)** **(1)**
(b)	Aluminium has a density of $2.7g/cm^3$. Calculate the difference between the volume of a $5g$ lump of iron and a $5g$ lump of aluminium.	**(b)** Volume Iron = $0.6410\ldots cm^3$ Volume Aluminium = $1.8518\ldots cm^3$ $1.21cm^3$	**(1)** **(1)** **(1)**
4)	Below is a solid glass paperweight.  The paperweight is a hemisphere with diameter 7cm. The glass has a density of $3g/cm^3$. Calculate the mass of the paperweight. Give your answer correct to 3 significant figures.	$\frac{4}{3} \times \pi \times 3.5^3$ or $179.59\ldots$ $179.59... \div 2 = 89.797...$ $3 \times 89.797...$ $269g$	**(1)** **(1)** **(1)** **(1)**

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