

Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

Standard Form

Calculator Allowed

INSTRUCTIONS TO CANDIDATES

Write your name in the space provided.

Write your answers in the spaces provided in this question paper.

Answer ALL questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You should have a ruler, compass and protractor where required.

Total Marks :

1) (a) Write 837 240 000 in standard form.

Answer _____ [1]

(b) Find in standard form the value of $(4.73 \times 10^{-3}) \times (7.29 \times 10^{-5})$

Answer _____ [2]

2) $\pounds 6.00 \times 10^6$ is to be divided into 5.0×10^7 equal shares. What amount should there be for each share?

Answer _____ [3]

3) (a) Write 0.000 000 000 0517 in standard form.

Answer _____ [1]

(b) Calculate, writing your answer in standard form

$$(9.03 \times 10^{-5}) \times (4.87 \times 10^{-6})$$

Answer _____ [2]

4) Find, in standard form, the value of

$$(3.58 \times 10^{-2}) \times (7.82 \times 10^{-3})$$

Answer _____ [2]

5) The population of Northern Ireland is 1.775×10^6

The number of people who live in Belfast is 2.675×10^5

What percentage of the population of Northern Ireland live in Belfast?

Answer _____ % [2]

6) Calculate $\frac{2.9 \times 10^{12}}{7.1 \times 10^4}$. Give your answer in standard form, correct to 2 significant figures. [3]

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- 7) (a) The Tea Council calculated that 57 billion teabags are used each year.
1 billion = 1000 million.
Write 57 billion in standard form.

Answer _____ [1]

- (b) The Tea Council also calculated that 1.56×10^8 cups of tea are drunk every day.
Calculate the number of cups of tea drunk every year.
Give your answer in standard form.

Answer _____ [2]

- (c) The total population of tea drinkers, to three significant figures, is 5.88×10^7
Calculate the average number of cups of tea each person drinks in a year.

Answer _____ [2]

8)

Evaluate the following.

Give your answer in standard form correct to 3 significant figures.

[3]

$$\frac{3.2 \times 10^4 + 7.3 \times 10^5}{6.2 \times 10^3}$$

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9)

- (a) In 2004 there were 7 000 000 people living alone in Great Britain, this is four times as many as in 1961.
Calculate how many people lived alone in Great Britain in 1961.
Express your answer in standard form.

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[3]

- (b) Two thirds of the 24.6 million households in the UK in 2004 were family households.
How many households in the UK in 2004 were family households?
Express your answer correct to two significant figures.

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[3]

10)

Evaluate $\frac{8.44 \times 10^{-8} \times 4.53 \times 10^{-4}}{2.34 \times 10^{16}}$.

Express your answer in standard form correct to 3 significant figures.

[2]

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11)

- (a) There are typically 3×10^4 grains of rice in 600 g.
Calculate how many grains of rice there would typically be in 5 g.
Give your answer in standard form. [2]

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- (b) A grain of sugar weighs 2×10^{-5} g.
Calculate how many grains of this sugar would be in a 1 kg bag of sugar.
Give your answer in standard form. [3]

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12)

- The Millennium Stadium can seat 72500 people.
The population of Wales would fill the Millennium Stadium forty-two times.
Use this information to calculate the population of Wales.
Give your answer in standard form correct to 3 significant figures. [3]

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13)

(a) Find the value of $\frac{3.6 \times 10^7}{6 \times 10^4}$.

Give your answer in standard form.

[2]

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(b) The mass of an atom of hydrogen is 1.66×10^{-24} g.
The mass of an atom of oxygen is 2.66×10^{-23} g.
A molecule of water consists of two atoms of hydrogen and one atom of oxygen.

Calculate the mass of a molecule of water.

Give your answer in standard form, correct to 3 significant figures.

[3]

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14)

Gethin's blood contains 5.97×10^6 red blood cells per millilitre.
He has 4.02 litres of blood in his body.

Estimate the total number of red blood cells Gethin has in his blood.

Give your answer in standard form.

[3]

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