

Standard Form (F)

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

Name:	Mel@JustMaths.
Total Marks:	

1. Write 856 000 000 in standard form.

..... 8.56×10^8 [1]

2. Write 4.31×10^{-3} as an ordinary number.

..... 0.00431 [1]

3. The table below shows the number of tonnes of rice produced in a year in five countries.

Country	Rice produced (tonnes)	
China	1.43×10^8	143,000,000
India	9.9×10^7	99,000,000
Vietnam	2.71×10^7	27,100,000
Thailand	2.05×10^7	20,500,000
Brazil	7.82×10^6	7,820,000

(a) Which country produced the most rice?

(a) China [1]

(b) Write 2.71×10^7 as an ordinary number.

(b) 27,100,000 [1]

(c) One tonne is equal to 1000 kilograms.

Change 7.82×10^6 tonnes to kilograms.

Give your answer in standard form.

(c) 7.82×10^9 kg [2]

(d) How many more tonnes of rice did India produce than Thailand?

Give your answer in standard form.

(d) 7.85×10^7 tonnes [2]

$$\begin{array}{r}
 99,000,000 \\
 20,500,000 \\
 \hline
 78,500,000
 \end{array}$$

4. The table shows data for the UK about its population and the total amount of money spent on healthcare in 2002, 2007 and 2012.

Year	Population	Total spent on healthcare (£)
2002	5.94×10^7	8.14×10^{10}
2007	6.13×10^7	1.20×10^{11}
2012	6.37×10^7	1.45×10^{11}

- (a) How much more was spent on healthcare in 2007 than in 2002?

Give your answer in millions of pounds.

$$\begin{array}{r} 1.45 \times 10^{11} \\ - 1.2 \times 10^{11} \\ \hline 0.25 \times 10^{11} \end{array} \quad \checkmark$$

$$\begin{array}{r} 1.2 \times 10^{11} \\ 1.45 \times 10^{11} \\ \hline 0.25 \times 10^{11} \end{array} \quad \text{not in SF}$$

$$2.5 \times 10^{10} = 25,000,000,000$$

(a) £25,000..... million [3]

- ✓(b) Marcia says

The amount spent on healthcare per person in the UK doubled in 10 years.

Use the information in the table to comment on whether Marcia is correct.

$$2002 \quad \frac{8.14 \times 10^{10}}{5.94 \times 10^7} = 13,707.70$$

Marcia is not correct.

$$2012 \quad \frac{1.45 \times 10^{11}}{6.37 \times 10^7} = 2276.30$$

[4]

5. (a) Write 1.2×10^{-5} as an ordinary number.

$$0.000012$$

[1]

- (b). Write 2 500 000 in standard form.

$$2.5 \times 10^6$$

[1]

6. Find, in standard form, the value of $(3 \times 10^2) \times (5 \times 10^6)$.

$$3 \times 5 \times 10^2 \times 10^6$$

$$\downarrow \quad \quad \quad \uparrow$$

$$15 \times 10^8 \text{ \textit{NOT standard form}}$$

$$1.5 \times 10^9$$

[2]

7. Which of these has the greatest value? Circle your answer.

6.15×10^4

$61\,499$

6.2×10^3

61.6×10^3

61500

6200

61600

[1]

8. Circle the number written in standard form.

0.5×10^4

5×10^{-4}

50×10^4

$5 \times 10^{0.4}$

x

[1]

CREDITS AND NOTES

Question	Awarding Body
1	OCR
2	OCR
3	OCR
4	OCR
5	AQA
6	WJEC Eduqas
7	AQA
8	AQA

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board s (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.



Links:

AQA <http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300>

OCR <http://ocr.org.uk/gcsemaths>

Pearson Edexcel <http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html>

WJEC Eduqas <http://www.eduqas.co.uk/qualifications/mathematics/gcse/>

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 1 and Practice set 2

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material