Name:_____

GCSE (1 - 9)

Standard Form (Foundation Questions)



Solutions by
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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 1F, Q24
2	Edexcel, GCSE, Autumn 2017, Paper 3F, Q25
3	Edexcel, GCSE, Autumn 2018, Paper 2F, Q27
4	Edexcel, GCSE, Autumn 2019, Paper 2F, Q27
5	Edexcel, GCSE, Autumn 2019, Paper 3F, Q28
6	Edexcel, GCSE, Autumn 2020, Paper 1F, Q28
7	Edexcel, GCSE, Summer 2017, Paper 2F, Q15
8	Edexcel, GCSE, Summer 2018, Paper 3F, Q18
9	Edexcel, GCSE, Summer 2019, Paper 2F, Q27
10	Edexcel, GCSE, Summer 2022, Paper 1F, Q26
11	Edexcel, GCSE, Summer 2023, Paper 3F, Q28
12	Edexcel, GCSE, November 2022, Paper 2F, Q29
13	Edexcel, GCSE, Summer 2022, Paper 1F, Q26

Standard Form (Questions from Edexcel GCSE Past Papers)

1 Non Calculator

Work out $\dfrac{0.06 \times 0.0003}{0.01}$

Give your answer in standard form.

$\dfrac{6 \times 10^{-2} \times 3 \times 10^{-4}}{1 \times 10^{-2}} = \dfrac{18 \times 10^{-6}}{1 \times 10^{-2}} = 18 \times 10^{-4}$

$= 1.8 \times 10^{-3}$

(Total for Question 21 is 3 marks)

[Edexcel, GCSE, Autumn 2017, Paper 1F, Q24]

2 Calculator Allowed

Work out $(13.8 \times 10^{7}) \times (5.4 \times 10^{-12})$

Give your answer as an ordinary number.

$138000000 \times 0.000000000000054$

$= 0.0007452$

0.0007452

(Total for Question 25 is 2 marks)

[Edexcel, GCSE, Autumn 2017, Paper 3F, Q25]

3 Calculator Allowed

(a) Write the number 0.000 075 47 in standard form.

7.547×10^{-5}

(1)

(b) Write 3.42×10^4 as an ordinary number.

34200

(1)

(c) Work out $\dfrac{2.3 \times 10^4 \times 6.7 \times 10^3}{5 \times 10^{-8}}$

3.082×10^{15}

(2)

(Total for Question 27 is 4 marks)

[Edexcel, GCSE, Autumn 2018, Paper 2F, Q27]

4 Calculator Allowed

Work out $(3.42 \times 10^{-7}) \div (7.5 \times 10^{-6})$
Give your answer in standard form.

$= 0.0456$

$= 4.56 \times 10^{-2}$

(Total for Question 27 is 2 marks)

[Edexcel, GCSE, Autumn 2019, Paper 2F, Q27]

5 Calculator Allowed

(a) Write 32 460 000 in standard form.

3.246×10^7

(1)

(b) Write 4.96×10^{-3} as an ordinary number.

0.00496

(1)

Asma was asked to compare the following two numbers.

$A = 6.212 \times 10^8$ and $B = 4.73 \times 10^9$

She says,

"6.212 is bigger than 4.73 so A is bigger than B."

(c) Is Asma correct?
You must give a reason for your answer.

She is incorrrect. A = 621,200,000 and B = 4,730,000,000
B is bigger than A.

(1)

(Total for Question 28 is 3 marks)

[Edexcel, GCSE, Autumn 2019, Paper 3F, Q28]

6 Non Calculator

Write these numbers in order of size.
Start with the smallest number.

6.72×10^5 67.2×10^{-4} 672×10^4 $0.000\,672$

6.72×10^5 6.72×10^{-3} 6.72×10^2 6.72×10^{-4}

0.000672 67.2×10^{-4} 672×10^4 6.72×10^5

(Total for Question 28 is 2 marks)

[Edexcel, GCSE, Autumn 2020, Paper 1F, Q28]

7 Calculator Allowed

(a) Write 4.7×10^{-1} as an ordinary number.

0.47

(1)

(b) Work out the value of $(2.4 \times 10^3) \times (9.5 \times 10^5)$
Give your answer in standard form.

$2.4 \times 10^3 \times 9.5 \times 10^5 = 22.8 \times 10^8$

2.28×10^9

(2)

(Total for Question 15 is 3 marks)

[Edexcel, GCSE, Summer 2017, Paper 2F, Q15]

8 Calculator Allowed

Work out the value of $\dfrac{2.645 \times 10^9}{1.15 \times 10^3}$

Give your answer in standard form.

$= 2,300,000$

2.3×10^6

(Total for Question 18 is 2 marks)

[Edexcel, GCSE, Summer 2018, Paper 3F, Q18]

9 Calculator Allowed

(a) Write 0.00562 in standard form.

5.62×10^{-3}

(1)

(b) Write 1.452×10^3 as an ordinary number.

1452

(1)

(Total for Question 27 is 2 marks)

[Edexcel, GCSE, Summer 2019, Paper 2F, Q27]

11

(a) Write $(9 \times 10^4) : (4.5 \times 10^6)$ in the form $1 : n$ where n is an integer.

$(9 \times 10^4) : (4.5 \times 10^6)$

$\div 9 \times 10^4$ $\quad$ $\div 9 \times 10^4$

$1 : 5 \times 10^1$

$1 : 50$

1:50

(2)

(b) Write the following numbers in order of size.
Start with the smallest number.

5.625×10^4 $\quad$ 5625 $\quad$ $56\,250 \times 10^{-3}$ $\quad$ $0.005\,625 \times 10^5$

5.625×10^1 $\quad$ 5.625×10^3 $\quad$ 5.625×10^2

$56\,250 \times 10^{-3}$ $\quad$ 0.005625×10^5 $\quad$ 5625 $\quad$ 5.625×10^4

(2)

(Total for Question 28 is 4 marks)

[Edexcel, GCSE, Summer 2023, Paper 3F, Q28]

12

(a) Write 6.75×10^{-4} as an ordinary number.

0·000675

(1)

(b) Work out $\dfrac{2.56 \times 10^{6} \times 4.12 \times 10^{-3}}{1.6 \times 10^{-2}}$

Give your answer in standard form.

659,200

6·592 x 10^{5}

(2)

(Total for Question 29 is 3 marks)

[Edexcel, GCSE, November 2022, Paper 3F, Q29]

13

(a) Write 1.63×10^{-3} as an ordinary number.

0·00163

(1)

(b) Write 438 000 in standard form.

4.38×10^{5}

(1)

(c) Work out $(4 \times 10^{3}) \times (6 \times 10^{-5})$
Give your answer in standard form.

$24 \times 10^{-2} = 0.024$

0·024

(2)

(Total for Question 26 is 4 marks)

[Edexcel, GCSE, Summer 2022, Paper 1F, Q26]