

FREE SAMPLE

GCSE Maths: Number

Grade 4 starter questions

Questions	20
Total marks	70
Sub-topics covered	8
Papers drawn from	20
Years	2017 to 2025

Arithmetic, factors, rounding, indices and standard form.

Every question is taken from the opening section of a real Edexcel Higher paper - the part where grade 4 marks are won - and is worth five marks or fewer.

The mark schemes are in a separate booklet, so you can work through these without the answers in front of you.

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N2 The Four Operations

Question 1

June 2017 · Paper 1 · Q3

3 marks

3 Work out 54.6×4.3

.....

(Total for Question 3 is 3 marks)

Question 2

November 2022 · Paper 1 · Q2

4 marks

2 (a) Work out $1\frac{3}{5} + 2\frac{1}{4}$

Give your answer as a mixed number.

.....
(2)

(b) Show that $2\frac{2}{3} \div 6 = \frac{4}{9}$

(2)

(Total for Question 2 is 4 marks)

Question 3

November 2024 · Paper 1 · Q3

5 marks

3 (a) Work out $3\frac{1}{2} - 1\frac{1}{6}$

Give your answer as a mixed number.

(b) Show that $5\frac{1}{4} \div 2\frac{1}{3} = 2\frac{1}{4}$

.....
(2)

(3)

(Total for Question 3 is 5 marks)

N3 Inverse Operations and Order of Operations

Question 4

June 2019 · Paper 3 · Q7

2 marks

7 Work out

$$\sqrt{\frac{2.5 \times \sin 43^\circ}{8.2^2 - 50.5}}$$

Give your answer correct to 3 significant figures.

.....
(Total for Question 7 is 2 marks)

Question 5

June 2023 · Paper 2 · Q1

3 marks

- 1 (a) Work out the value of $\frac{25 - \sqrt{43.87}}{6 + 2.1^2}$

Write down all the figures on your calculator display.

.....
(2)

- (b) Work out the value of the reciprocal of 0.625

.....
(1)

.....
(Total for Question 1 is 3 marks)

N4 Factors, Multiples and Prime Numbers

Question 6

June 2018 · Paper 2 · Q2

3 marks

- 2 (a) Find the lowest common multiple (LCM) of 40 and 56

.....
(2)

$$A = 2^3 \times 3 \times 5 \qquad B = 2^2 \times 3 \times 5^2$$

- (b) Write down the highest common factor (HCF) of A and B .

.....
(1)

(Total for Question 2 is 3 marks)

Question 7

November 2020 · Paper 2 · Q1

4 marks

1 (a) Write 84 as a product of its prime factors.

.....
(2)

(b) Find the lowest common multiple (LCM) of 60 and 84

.....
(2)

(Total for Question 1 is 4 marks)

Question 8

November 2021 · Paper 2 · Q2

4 marks

2 (a) Find the Highest Common Factor (HCF) of 60 and 84

.....
(2)

(b) Find the Lowest Common Multiple (LCM) of 24 and 40

.....
(2)

(Total for Question 2 is 4 marks)

N7 Indices (Integer and Fractional)

Question 9

November 2017 · Paper 2 · Q6

4 marks

6 $p^3 \times p^x = p^9$

(a) Find the value of x .

$$x = \dots\dots\dots$$

(1)

$$(7^2)^y = 7^{10}$$

(b) Find the value of y .

$$y = \dots\dots\dots$$

(1)

$100^a \times 1000^b$ can be written in the form 10^w

(c) Show that $w = 2a + 3b$

(2)

(Total for Question 6 is 4 marks)

Question 10

November 2023 · Paper 1 · Q2

4 marks

2 (a) (i) Write down the value of 5^0

.....
(1)

(ii) Write down the value of 5^{-2}

.....
(1)

(b) Write $\frac{2^5 \times 2^4}{2^3}$ in the form 2^n where n is an integer.

.....
(2)

(Total for Question 2 is 4 marks)

Question 11

November 2021 · Paper 3 · Q3

4 marks

3 (a) Write 4.5×10^5 as an ordinary number.

.....
(1)

(b) Write 0.007 in standard form.

.....
(1)

(c) Work out $4.2 \times 10^3 + 5.3 \times 10^2$
Give your answer in standard form.

.....
(2)

(Total for Question 3 is 4 marks)

Question 12

June 2022 · Paper 1 · Q4

4 marks

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

.....
(1)

(b) Write 438 000 in standard form.

.....
(1)

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

.....
(2)

(Total for Question 4 is 4 marks)

Question 13

June 2024 · Paper 3 · Q2

4 marks

2 (a) (i) Write 5.3×10^4 as an ordinary number.

.....
(1)

(ii) Write 7.4×10^{-5} as an ordinary number.

.....
(1)

(b) Calculate the value of $9.7 \times 10^6 + 2.45 \times 10^7$
Give your answer in standard form.

.....
(2)

(Total for Question 2 is 4 marks)

Question 14

June 2025 · Paper 2 · Q5

3 marks

- 5 This year the total weight of potatoes grown on a farm is $\frac{1}{5}$ less than last year.
- This year the total weight of potatoes grown is 8000 tonnes.
- Work out the total weight of potatoes grown last year.

..... tonnes

(Total for Question 5 is 3 marks)

Question 15

June 2023 · Paper 3 · Q2

5 marks

- 2 Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.

10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

- (a) Using this assumption, work out the amount of coffee Jonny needs.
Give your answer correct to the nearest gram.

..... g
(4)

Jonny's assumption is wrong.

72% of the people will drink coffee.

- (b) How does this affect your answer to part (a)?

.....
.....
.....
(1)

(Total for Question 2 is 5 marks)

N14 Estimation and Checking Calculations

Question 16

June 2018 · Paper 1 · Q4

4 marks

- 4 A cycle race across America is 3069.25 miles in length.

Juan knows his average speed for his previous races is 15.12 miles per hour.
For the next race across America he will cycle for 8 hours per day.

- (a) Estimate how many days Juan will take to complete the race.

.....
(3)

Juan trains for the race.
The average speed he can cycle at increases.
It is now 16.27 miles per hour.

- (b) How does this affect your answer to part (a)?

.....
(1)

.....
(Total for Question 4 is 4 marks)

Question 17

June 2024 · Paper 1 · Q5

4 marks

- 5 Sophie drives a distance of 513 kilometres on a motorway in France. She pays 0.81 euros for every 10 kilometres she drives.

(a) Work out an estimate for the total amount that Sophie pays.

..... euros
(3)

- (b) Is your answer to part (a) an underestimate or an overestimate?
Give a reason for your answer.

.....
.....
.....
(1)

(Total for Question 5 is 4 marks)

N15 Rounding and Error Intervals

Question 18

June 2017 · Paper 2 · Q7

2 marks

- 7 A number, n , is rounded to 2 decimal places.
The result is 4.76

Using inequalities, write down the error interval for n .

.....
(Total for Question 7 is 2 marks)

Question 19

June 2019 · Paper 2 · Q6

2 marks

- 6 Sally used her calculator to work out the value of a number y .

The answer on her calculator display began

8.3

Complete the error interval for y .

..... $\leq y <$

(Total for Question 6 is 2 marks)

Question 20

November 2019 · Paper 2 · Q2

2 marks

- 2 The length of a pencil is 128 mm correct to the nearest millimetre.

Complete the error interval for the length of the pencil.

..... mm $\leq$ length < mm

(Total for Question 2 is 2 marks)
