Questions

Q1.

Prove algebraically that the recurring decimal $0.2\dot{5}$. has the value $\frac{23}{90}$

(Total for question = 2 marks)

(**Q15 1MA1/2H/N, Specimen papers**)

Q2.

Prove algebraically that the recurring decimal $0.3\dot{1}\dot{8}$ can be written as $\frac{7}{22}$

(Total for question = 2 marks)

(**Q19 1MA1/3H/S2, Specimen papers**)

Q3.

Prove that the recurring decimal $0.4\dot{3}$ has the value $\frac{13}{30}$

(Total for question = 2 marks)

(**Q13 1MA1/1H/M2, Specimen papers**)

Q4.

Write $0.6\dot{2}\dot{4}$ as a fraction in its simplest form.

.....

(Total for question = 3 marks)

(**Q14 1MA1/1H/M1, Specimen papers**)

Q5.

$x = 0.4\dot{3}\dot{6}$

Prove algebraically that x can be written as $\frac{24}{55}$

(Total for question = 3 marks)

(**Q15 1MA1/1H, Nov 2017**)

Q6.

Using algebra, prove that $0.1\dot{3}\dot{6} \times 0.\dot{2}$ is equal in value to $\frac{1}{33}$

(Total for question = 3 marks)

(**Q16 1MA1/2H, June 2017**)

Q7.

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

0.4 0.02 0.37 0.152 0.2

.....

(Total for question = 1 mark)

(**Q01 1MA1/1F, Nov 2018**)

Q8.

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

0.32 0.4 0.35 0.309

.....

(Total for question = 1 mark)

(**Q01 1MA1/1F, Nov 2020**)

Q9.

Work out 0.004 × 0.32

.....

(Total for question = 2 marks)

(**Q22 1MA1/1F, Nov 2022**)

Q10.

Work out 0.004 × 0.32

.....

(Total for question = 2 marks)

(**Q04 1MA1/1H, Nov 2022**)

Q11.

Work out 6.3 × 2.4

.....

(Total for question = 3 marks)

(**Q18 1MA1/1F, Nov 2023**)

Q12.

Work out 6.3 × 2.4

.....

(Total for question = 3 marks)

(**Q01 1MA1/1H, Nov 2023**)

Q13.

(a) Write the following numbers in order of size.

Start with the smallest number.

−6 6 −5 0 12

.....

(1)

(b) Write the following numbers in order of size.

Start with the smallest number.

0.078 0.78 0.87 0.708

.....

(1)

(Total for question = 2 marks)

(**Q02 1MA1/1F, June 2018**)

Q14.

Write 0.3 as a percentage.

..... %

(Total for question = 1 mark)

(**Q02 1MA1/3F, June 2018**)

Q15.

(a) Use your calculator to work out $\frac{43.2 + \sqrt{99.05}}{0.193}$

Write down all the digits on your calculator display.

.....

(2)

(b) Write your answer to part (a) correct to 2 significant figures.

.....

(1)

(Total for question = 3 marks)

(**Q17 1MA1/2F/M2, Specimen papers**)

Q16.

Martin has 8 pints of soup in a pan.
He also has 24 soup bowls.
He puts 0.3 pints of soup into each bowl.

How much soup has Martin left over?

..... pints

(Total for question = 3 marks)

(**Q12 1MA1/2F/S2, Specimen papers**)

Q17.

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

0.41 0.5 0.46 0.408

.....

(Total for question = 1 mark)

(**Q01 1MA1/3F, Nov 2022**)

Q18.

(a) Write 87 569 correct to 3 significant figures.

.....

(1)

(b) Work out $\frac{(3.2 + 3.7) \times 4.9}{5.3 - 2.8}$

Give your answer as a decimal.

.....

(2)

(Total for question = 3 marks)

(**Q17 1MA1/3F, Nov 2022**)

Q19.

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

0.57 0.507 0.5 0.05

.....

(Total for question = 1 mark)

(**Q03 1MA1/2F, Nov 2024**)

Q20.

Write 35% as a decimal.

.....

(Total for question = 1 mark)

(**Q01 1MA1/3F, Nov 2023**)

Q21.

Write 45% as a decimal.

.....

(Total for question = 1 mark)

(**Q01 1MA1/3F, Nov 2021**)

Q22.

(a) Write the following numbers in order of size.

Start with the smallest number.

−8 2 −12 5 10

.....

(1)

(b) Write the following numbers in order of size.

Start with the smallest number.

1.073 1.37 1.307 1.703

.....

(1)

(Total for question = 2 marks)

(**Q01 1MA1/1F/M3, Specimen papers**)

Q23.

(a) Write the following numbers in order of size.

Start with the smallest number.

−5 0 −7 4 −10

.....

(1)

(b) Write the following numbers in order of size.

Start with the smallest number.

0.52 0.2 0.25 0.205

.....

(1)

(Total for question = 2 marks)

(**Q01 1MA1/1F/M2, Specimen papers**)

Q24.

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

$0.2\dot{4}\dot{6}$ $0.24\dot{6}$ $0.\dot{2}4\dot{6}$ 0.246

.....

(Total for question = 2 marks)

(**Q08 1MA1/1H, Nov 2017**)

Q25.

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

3.25 3.2 3.05 3.205

.....

(Total for question = 1 mark)

(**Q02 1MA1/3F/M1, Specimen papers**)

Q26.

Work out 54.6 × 4.3

.....

(Total for question = 3 marks)

(**Q23 1MA1/1F, June 2017**)

Q27.

Work out 54.6 × 4.3

.....

(Total for question = 3 marks)

(**Q03 1MA1/1H, June 2017**)

Q28.

Work out 6.34 × 5.2

.....

(Total for question = 3 marks)

(**Q01 1MA1/1H/N, Specimen papers**)

Q29.

Work out 6.34 × 5.2

.....

(Total for question = 3 marks)

(**Q21 1MA1/1F/N, Specimen papers**)

Q30.

Work out £3.89 × 5

£ .....

(Total for question = 2 marks)

(**Q07 1MA1/1F/M3, Specimen papers**)

Q31.

Prove algebraically that $0.0\dot{7}2\dot{3}$ can be written as $\frac{241}{3330}$

(Total for question = 3 marks)

(**Q13 1MA1/2H, Nov 2023**)

Q32.

Using algebra, prove that $1.06\dot{2}$ can be written as $1\frac{14}{225}$

(Total for question = 3 marks)

(**Q14 1MA1/2H, Nov 2022**)

Q33.

Write $\frac{31}{100}$ as a decimal.

.....

(Total for question = 1 mark)

(**Q03 1MA1/2F, June 2024**)

Q34.

Show that $0.\dot{1}\dot{5} + 0.2\dot{2}\dot{7}$ can be written in the form $\frac{m}{66}$ where m is an integer.

(Total for question = 3 marks)

(**Q18 1MA1/1H, June 2024**)

Q35.

Prove algebraically that $0.12\dot{3}$ can be written as $\frac{61}{495}$

(Total for question = 3 marks)

(**Q20 1MA1/3H, June 2023**)

Q36.

Express $0.1\dot{1}\dot{7}$ as a fraction.
You must show all your working.

(Total for question = 3 marks)

(**Q12 1MA1/1H, June 2022**)

Q37.

Prove algebraically that $0.46\dot{2}\dot{2}$ can be written as $\frac{229}{495}$

(Total for question = 3 marks)

(**Q14 1MA1/3H, Nov 2024**)

Q38.

Write $\frac{4}{5}$ as a decimal.

.....

(Total for question = 1 mark)

(**Q03 1MA1/3F, Nov 2022**)

Q39.

Ted is trying to change $0.\dot{4}\dot{3}$ to a fraction.

Here is the start of his method.

$$x = 0.\dot{4}\dot{3}$$
$$10x = 4.\dot{3}\dot{4}$$
$$10x - x = 4.\dot{3}\dot{4} - 0.\dot{4}\dot{3}$$

Evaluate Ted's method so far.

.....

.....

.....

(Total for question = 1 mark)

(**Q13 1MA1/1H, Nov 2021**)

Q40.

Write $\frac{9}{100}$ as a decimal.

.....

(Total for question = 1 mark)

(**Q03 1MA1/1F, Nov 2021**)

Q41.

Work out 8.46 ÷ 0.15

.....

(Total for question = 3 marks)

(**Q01 1MA1/1H, June 2023**)

Q42.

Work out 818.4 ÷ 1.2

.....

(Total for question = 3 marks)

(**Q01 1MA1/1H, Nov 2024**)

Q43.

(a) Work out 3.67 × 4.2

.....

(3)

(b) Work out 59.84 ÷ 1.6

.....

(3)

(Total for question = 6 marks)

(**Q01 1MA1/1H, Nov 2021**)

Q44.

Prove algebraically that $0.7\dot{3}$ can be written as $\frac{11}{15}$

(Total for question = 2 marks)

(**Q15 1MA1/3H, Nov 2020**)

Q45.

(a) Work out $\frac{9.8 + 6.8}{4.2 \times 2.1}$

Give your answer as a decimal.
Write down all the figures on your calculator display.

.....

(2)

(b) Write your answer to part (a) correct to 2 decimal places.

.....

(1)

(Total for question = 3 marks)

(**Q18 1MA1/2F, Nov 2023**)

Q46.

Write 0.3 as a percentage.

..... %

(Total for question = 1 mark)

(**Q02 1MA1/1F, June 2024**)

Q47.

Write 38% as a decimal.

.....

(Total for question = 1 mark)

(**Q01 1MA1/1F, June 2023**)

Q48.

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

1.02 0.12 1.20 0.21

.....

(Total for question = 1 mark)

(**Q03 1MA1/2F, Nov 2021**)

Q49.

Write 25% as a decimal.

.....

(Total for question = 1 mark)

(**Q01 1MA1/1F, Nov 2024**)

Q50.

There are 14 rows of seats in a cinema.
There are 15 seats in each row.

A film was shown in the cinema on Saturday.
Each ticket for the film cost £6.50

The tickets that were sold cost a total of £1274

How many tickets were **not** sold?

.....

(Total for question = 3 marks)

(**Q06 1MA1/2F, Nov 2019**)