cookie

Practice paper

GCSE Maths Foundation, practice paper 1 (non-calculator) (AQA style)

In the style of AQA GCSE Mathematics (8300) Paper 1 Foundation

Practice paper written by cookie in the style of AQA GCSE Mathematics (8300) Paper 1 Foundation. Not an AQA paper; not affiliated with or endorsed by AQA.

Time allowed: 1 hour 30 minutes

Total marks: 80

You must not use a calculator.

Name _____

Instructions

- Answer all questions.
- Answer the questions in the spaces provided.
- You must not use a calculator.
- In all calculations, show clearly how you work out your answer.
- The marks for each question are shown in brackets.
- The maximum mark for this paper is 80.
- Diagrams are not used in this paper; where a shape is needed it is described in words.

Information

- The marks for each question are shown in brackets.
- The maximum mark for this paper is 80.

Do it online, timed and marked:
cookie.education/past-papers/gcse/cookie/maths-aqa-style

Answer all questions in the spaces provided.

0 1 Which of these numbers is the largest?
Circle your answer.

A 0.3 B 0.29 C 0.305 D 0.31

[1 mark]

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0 2 Which of these is a prime number?
Circle your answer.

A 21 B 27 C 29 D 33

[1 mark]

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0 3 Simplify 5a + 3b − 2a + b
Circle your answer.

A 3a + 4b B 7a + 4b C 3a + 2b D 8ab

[1 mark]

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0 4 What is 30% written as a fraction in its simplest form?
Circle your answer.

A 3/100 B 1/3 C 3/10 D 30/100

[1 mark]

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0 5 Work out 347 × 26

[2 marks]

Answer .....

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0 6 Write these numbers in order of size.
Start with the smallest.
2/5 0.38 41% 3/8

[2 marks]

Answer .....

0 7 Cinema tickets cost £8.50 for an adult and £5.75 for a child.
A family buys tickets for 2 adults and 3 children.
They pay with two £20 notes.
How much change should they get?

[3 marks]

Answer .....

0 8 Work out an estimate for the value of
(48.7 × 6.1) / 0.52
You must show your working.

[2 marks]

Answer .....

0 9 ABC is a triangle.
Angle BAC = 54°
Angle ABC is twice the size of angle ACB.
Work out the size of angle ABC.

[3 marks]

Answer .....

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10 Here are the first four terms of a sequence.
5 9 13 17

1 0 . 1 Write down the next term of the sequence.

[1 mark]

Answer .....

1 0 . 2 Write down an expression for the nth term of the sequence.

[2 marks]

Answer .....

1 0 . 3 Is 101 a term in the sequence?
Give a reason for your answer.

[1 mark]

Answer .....

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1 1 . 1 Work out 3/5 of 85

[2 marks]

Answer .....

1 1 . 2 Work out 15% of 260

[2 marks]

Answer .....

1 1 . 3 The price of a jacket increases from £40 to £46.
Work out the percentage increase.

[2 marks]

Answer .....

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12 Work out 2/3 + 1/4
Give your answer as a fraction.

[2 marks]

Answer .....

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1 3 . 1 Share £72 in the ratio 5 : 3

[2 marks]

Answer .....

1 3 . 2 Sam and Ali share some sweets in the ratio 4 : 7
Ali gets 21 more sweets than Sam.
How many sweets does Sam get?

[2 marks]

Answer .....

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14 A garden is a rectangle 14 m long and 9 m wide.
A square patio with sides of 4 m is in the garden.
The rest of the garden is lawn.
One box of grass seed covers 20 m^2 of lawn.
How many boxes of grass seed are needed for the whole lawn?

[3 marks]

Answer .....

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15 $v = u + at$
Work out the value of v when $u = 5$, $a = -2$ and $t = 7$

[2 marks]

Answer .....

16.1 Solve $4x - 7 = 21$

[2 marks]

Answer .....

16.2 Solve $3(2y + 1) = 5y + 9$

[2 marks]

Answer .....

17.1 Expand $5(2x - 3)$

[1 mark]

Answer .....

17.2 Factorise fully $12x^2 + 8x$

[2 marks]

Answer .....

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18 A spinner can land on red, blue, green or yellow.
The probability that it lands on red is 0.35
The probability that it lands on blue is 0.2
The probability that it lands on green is the same as the probability that it lands on yellow.

18.1 Work out the probability that the spinner lands on green.

[2 marks]

Answer .....

18.2 The spinner is spun 200 times.
Work out an estimate of the number of times it lands on red.

[2 marks]

Answer .....

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19 The mean of five numbers is 12
Four of the numbers are 9, 15, 8 and 14
Work out the fifth number.

[2 marks]

Answer .....

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20 There are 60 students in Year 10.
32 of the students are girls.
25 of the students walk to school.
14 of the girls walk to school.

2 0 . 1 Work out how many boys do not walk to school.

[2 marks]

Answer .....

2 0 . 2 A student is chosen at random from Year 10.
Write down the probability that the student is a girl who does not walk to school.

[1 mark]

Answer .....

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2 1 . 1 Write 6.3×10^5 as an ordinary number.

[1 mark]

Answer .....

2 1 . 2 Write 0.0047 in standard form.

[1 mark]

Answer .....

2 1 . 3 Work out $(4 \times 10^3) \times (2 \times 10^6)$
Give your answer in standard form.

[1 mark]

Answer .....

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2 2 . 1 Solve $5x + 3 > 2x - 9$

[2 marks]

Answer .....

2 2 . 2 n is an integer.
$-2 < n \leq 3$
Write down all the possible values of n.

[2 marks]

Answer .....

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23 A train leaves a station at 09:47
It arrives at another station at 11:17
The distance between the two stations is 210 km.
Work out the average speed of the train in kilometres per hour.

[3 marks]

Answer .....

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24 Solve the simultaneous equations
$2x + y = 11$
$x - y = 1$
You must show your working.

[3 marks]

Answer .....

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25 A right-angled triangle has two shorter sides of length 9 cm and 12 cm.
Work out the length of the longest side.

[3 marks]

Answer .....

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2 6 . 1 A circle has a diameter of 10 cm.
Work out the area of the circle.
Give your answer in terms of π.

[2 marks]

Answer .....

2 6 . 2 Work out the circumference of the circle.
Give your answer in terms of π.

[1 mark]

Answer .....

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2 7 . 1 Factorise $x^2 + 2x - 15$

[2 marks]

Answer .....

2 7 . 2 Hence, solve $x^2 + 2x - 15 = 0$

[1 mark]

Answer .....

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28 In a right-angled triangle, the hypotenuse is 16 cm long.
One of the angles in the triangle is 60°.
Work out the length of the side next to (adjacent to) the 60° angle that is not the hypotenuse.

[2 marks]

Answer .....

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2 9 . 1 A prism is 15 cm long.
Its cross-section is a right-angled triangle with shorter sides of 6 cm and 8 cm.
Work out the volume of the prism.

[2 marks]

Answer .....

2 9 . 2 1 litre = 1000 cm^3
Change your answer to part (a) into litres.

[1 mark]

Answer .....

END OF QUESTIONS