AQA◳ Mock Test Papers
Paper3 -Test3

GCSE Mathematics

Foundation tier -- Paper3

F

Morning

1 hour 30 minutes

Instructions

Use black ink or black ball-point pen.
Draw diagrams in pencil. Fill in the boxes at the bottom of this page.
Answer all questions.
You must answer the questions in the spaces provided.
Do not write outside the box around each page or on blank pages.
Do all rough work in this book.
In all calculations, show clearly how you work out your answer.

Information

The marks for questions are shown in brackets.
The maximum mark for this paper is 80.
You may ask for more answer paper, graph paper and tracing paper.
These must be tagged securely to this answer book.

Advice

In all Calculations, show clearly how you workout your answer

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Answer all questions in the spaces provided.

1 (a)   Which of these is a square number? Circle your answer.

[1 mark]

100,   109   112,   114,   123,   129

1 (b)   Solve $\dfrac{x}{4} = 10$

[1 mark]

X= _____

1 (c)   Solve $2y + 4 = 20$

[1 mark]

y = _____

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2 Here is a list of numbers.

1 3 5 7 9 11 3 9 9 11

2 (a) Write down the mode.

[1 mark]

Answer........................

2 (b) Work out the median.

[2 marks]

Answer........................

2 (c) Work out the range.

[1 mark]

Answer........................

7

Turn over ▶

3 (a)   Work out the value of 3x + 7y when x =3 and y = -6   [2 marks]

Answer......................

3 (b) Find 25% of 60   [2 marks]

Answer......................

4 (a)   Complete these statements with one of the following symbols = ≥ ≤ > <

[3 marks]

$$-7 \boxed{} -2$$

$$75 \div 5 \boxed{} 5.29$$

$$(-6)^2 \boxed{} 36$$

4 (b)   Match the numbers to the correct description.

[3 marks]

odd		64
Square		11
Cube		20
Triangular		10
even		16

Turn over ▶

10

5 (a)   Here is a circle.

8 cm
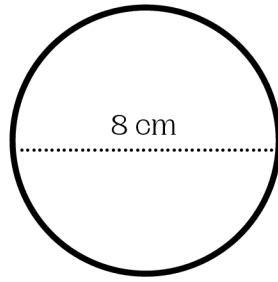
Not drawn accurately

Work out the the ratio   [3 marks]

circle area : circle circumference.

Give your answer in its simplest form.

_____

_____

_____

_____

_____

_____

_____

5 (b)   Simplify $a^2 \times a^{-5} \times b^3 \times b^2$ [2 marks]

.

_____

_____

_____

_____

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6 (a)   Here is a right-angled triangle.

[3 marks]

7 cm

25 cm

Work out the perimeter of the triangle.

Give your answer correct to 1 decimal place.

Answer _____ cm

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6 (b) Factorise fully $x^2 + 8x + 16$

[2 marks]

6 (c) Simplify $\left(\dfrac{2b^2c^3}{16bc}\right)^3$

[2 marks]

7

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

$B = 4 \times 5^2 \times 3^2$

7 (a)   Write down the number that A represents.   [1 mark]

Answer........................

7 (b) .   Find the Highest Common Factor (HCF) of 2A and 2B

[2 marks]

Answer.......................

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8 (a) The mass of 30 cm³ of copper is 267 grams.

[2 marks]

Work out the mass of 100 cm³ of copper.

_____

_____

_____

_____

_____

_____

_____

_____

Answer........................ grams.

8 (b)   Complete the names of these shapes.

[3 marks]

Shape   **Name**

....

....

....

12

Turn over ▶

Prepare 4 GCSEs
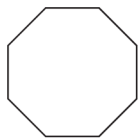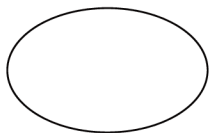
9 (a)   In a classroom, the ratio of boys to girls is $2 : 4$
        Write the fraction of students who are girls.   [1 mark]

                Answer _____

        In the same classroom

        the ratio of students who prefer Maths to those who prefer French is $6 : 4$

9 (b)   Write the percentage of students who prefer Maths.   [1 mark]

                Answer _____ %

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10 (a)   vishikha buys a bicycle for £900.
She pays a deposit of £180.
She pays the rest in 6 equal monthly payments.
Work out the amount of each monthly payment.

[3 marks]

_____

_____

_____

_____

_____

_____

10 (b)   If $y = 7$

[2 marks]

Work out the value of $y^2 - 7y$

_____

_____

_____

_____

Answer ....

7

Turn over ▶

Prepare 4 GCSEs

11 A bag contains counters that are pink, blue, red or green. [4 marks]

	pink	blue	red	green
Number of counters	8x	4x	x + 3	9

A counter is chosen at random.

The probability it is green is $\dfrac{9}{100}$

Work out the probability it is blue.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ _____

Prepare 4 GCSEs

12 Here is the recipe to make 20 cookie biscuits.

[3 marks]

20 cookie biscuits.

200g flour
150g butter
100g sugar
0.4kg chocolate chips

Work out how much of each ingredient needed to make 10 cookie biscuits.?
Give your answers in grams.

Answer

7

Turn over ▶

13 A library has 40 children's books and 60 adult books.
    After a book donation, 20 new children's books are added to the library.
    Now, the total number of books in the library is 140.
    How many of the donated books were adult books?

                                                                    [4 marks]

14 (a) Here is a cuboid made from metal.   [3 marks]

5 cm

2 cm

10 cm
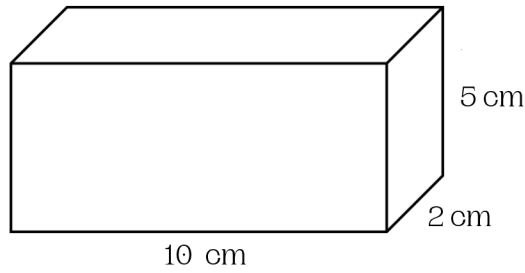
The mass of the cuboid is 1 kg. Work out the density of the cuboid in g/cm3

Answer _____ g/cm3

14 (b) [1 mark]

When x^2 = 625 the only value that it can be is 25

Is this true or false?   Tick a box.

True [   ]   False [   ]

Reason _____

8

Turn over ▶

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15   The table shows information about the heights (in cm) of 50 plants in a greenhouse.

Height (cm)	Frequency
20	5
22	12
24	18
26	10
28	5
Total = 50	

[3 marks]

Plants shorter than the mean height will be given extra fertilizer.

How many plants will receive extra fertilizer?

You must show your working.

_____

_____

_____

_____

_____

_____

_____

Answer _____

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16   *ABCD* is a quadrilateral.

Not drawn accurately

Work out the size of angle *CDA*

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ °

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17   Simplify fully 6a + 8b – 2a + 5b   [2 marks]

_____

_____

_____

_____

Answer   _____

18   Two angles around a point are shown.   [2 marks]
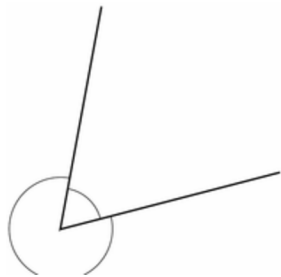
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accurately
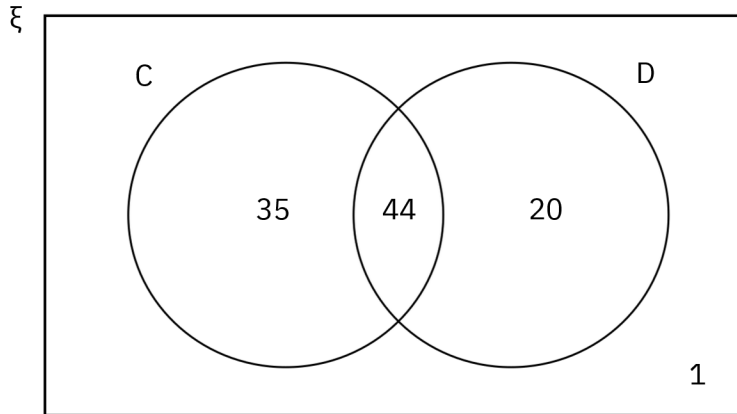
The angles are in the ratio 3:5
Show that the larger angle is $200°$

_____

_____

_____

_____

_____

19   A coffee shop owner recorded the orders of 100 visitors.

ξ = the visitors to the coffee shop
C = ordered crisps
D = ordered drink

[4 marks]

ξ

C   D

35   44   20

1

Complete the frequency tree below.

total
visitors

ordered
crisps

ordered
drink

Yes

100

Yes

No

Yes

No

No

Yes

No

8
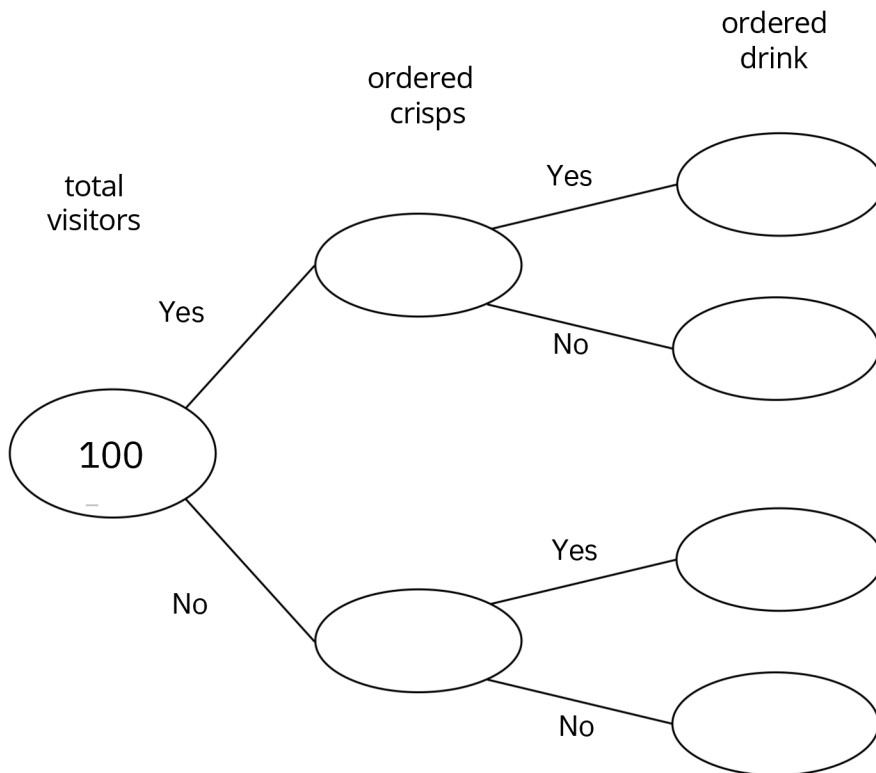
20 (a)   The term-to-term rule for a sequence is

[2 marks]

> subtract 2 then multiply by 6

The 1st term is 6
Work out the 3rd term.

Answer _____

.

20 (b)   The term-to-term rule for a different sequence is

[2 marks]

> add 15 then divide by 3

The 2nd term is 75
Work out the 1st term.

_____

_____

_____

Answer _____

21   Let w be greater than 2 and less than 3.   [2 marks]
      Let x be greater than 0 and less than 2.

$$w + x = 4.5$$

work out a possible pair of values for w and x.

W = _____

X = _____

END OF QUESTIONS

6