

AQA Mock Test Papers Paper3-Test2

GCSE Mathematics

Foundation tier -- Paper3



For this paper you must have: calculator mathematical instrument



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

These must be tagged securely to this answer book.

Advice

In all Calculations, show clearly how you workout your answer

/ Please write cle	arly, in block capitals, to allow character computer
Centre number recognition.	Candidate number
Surname	
Forename(s)	
Candidate signa	ture

Answer a	lc	questions	in	the s	paces	provi	ded.
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1 (a) Which of these is a cube number? Circle your answer.

[1 mark]

3,

4,

9,

25,

49,

64,

81

1 (b) Solve y - 12 = 84

[1 mark]

_y =

1 (c) Simplify 36:72

[1 mark]

2 Here is a list of numbers.	·o	u
2 4 6 8 10 8 10 8 6 7		
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		

Prepare 4 GC56s

3(a)	Work out the value of $6x - 9y$ when $x = -8$	5 and v = -4

[2 marks]

Answer.....

3 (b)
$$c > 5$$
 $d < 3$ $c - d = 7$ Work out a possible pair of values for c and d.

[2 marks]

4 (a) Complete these statements with one of the following symbols $= \ge \le > <$

[3 marks]

95 ÷ 5

25.29

 $(-25)^2$

625

4 (b) Match the algebra to the correct description.
One has been done for you.

[3 marks]

10 b = 50

Equation

Formula

8a > 16

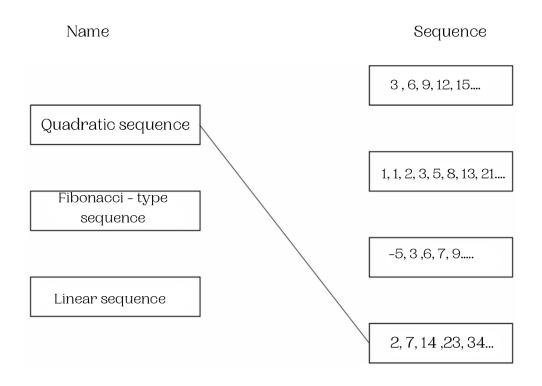
Inequality

4a + a = 5a

Identity

4a + 2b

Expression



5 (b)	Simplify	$a^2 x a^{-5} x b x^3 b^2$	[2 marks]
		a ² x b ⁴	

6 (a)	Here is a right-angled	triangle.	[3 marks]
	9 cm	41 cm	
	Work out the perimet Give your answer cor	er of the triangle. rect to 1 decimal place.	
		wer	om

Turn over ▶



(b) Factorise fu	Illy $x^2 + 10x + 25$	[2 marks]
6(c) Simplify	$(4b^2c^2)^3$ 20 bc	[2 marks]
6 (c) Simplify	(<u>4 b²c²)</u> 20 bc	[2 marks]
6(c) Simplify	(<u>4 b²c²)</u> 20 bc	[2 marks]
6(c) Simplify	(<u>4 b²c²</u>) ³ 20 bc	[2 marks]
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6(c) Simplify	(<u>4 b²c²</u>) ³ 20 be	[2 marks]
6(c) Simplify	(<u>4 b²c²</u>) ³ 20 be	[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 A and 2B

[2 marks]

Answer.....

Do not write
outside the
box

8 (a)	Three apples have masses of 120 g, 15 Show that their total mass is betwee			[2 marks]
_				_
_				_
				_
_				_
_				_
_	Answer	grams		
	7 TIGWOI	gr anno.		
8 (b)	For each statement, tick the correct box	ζ.		[3 marks]
		Always true	Sometimes true	Never true
(One of the angles in a triangle is 60°			
One of	the angles in a triangle is greater than 90°			
One of	the angles in a triangle is more than 180°			

9 (a) In a classroom, the ratio of boys to girls is 6 : 4 Write the fraction of students who are boys.	[1 mark]
Answer	
In the same classroom the ratio of students who prefer French to those who prefer Spa	anish is 3 : 7
9 (b) Write the percentage of students who prefer Spanish.	[1 mark]
Answer	o .



(a)	Eeshu buys a mobile for £800. She pays a deposit of £150.	
	She pays the rest in 6 equal monthly payments.	
	Work out the amount of each monthly payment.	
		[3 marks]
_		
		_
-		
_		
_		
-		
(b)	If $y = 9$	fo
	Work out the value of $y^2 + 9y$	[2 marks]
_		
_		
-		
-		
-	Answer	

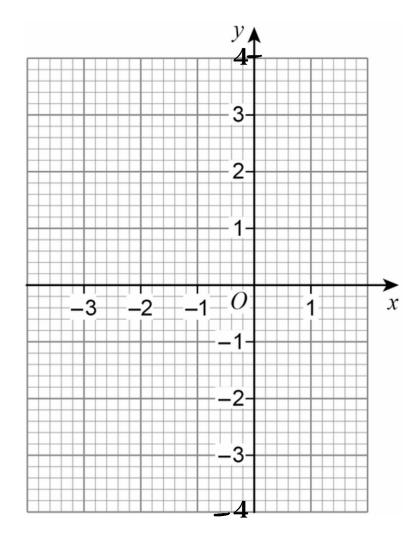
11 (a) Complete the table of values for $y = x^2 + 3x$

[2	marks]
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X	-3	-2	-1	0	1
У		-2		0	

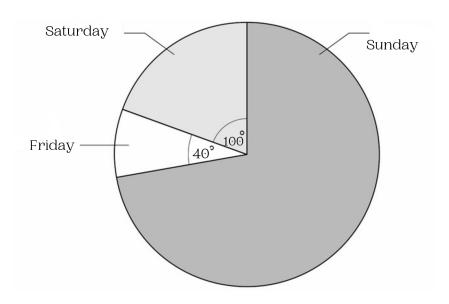
11 (b) Draw the graph of $y = x^2 + 3x$ for values of x from -3 to 1

[2 marks]



12 The pie chart shows information about number of visitors at a local museum during three- day weekend.

[3 marks]



There were 85 more visitors on Saturday than on Friday. Calculate the number of visitors to the museum on Sunday

Answer

13	The number of rabbits in a small park is expected to decrease by 2% each Currently, there are 50,000 rabbits in the park. Calculate the expected number of rabbits in the park after three years. You must show your working.	
		[3 marks]
_		
_		
	Answer	

4(a)	Here is a	cuboid	made	from	metal

4 cm

6 cm

2 cm

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

Answer

14 (b) Write down the two solutions of (x-2)(x+4) = 0

Answer

[3 marks]

[1 mark]

g/cm3

15	Eeshu has £100. She saves some money and gives the rest to her two sisters. The ratio of money saved money given to her sisters is 1:4. She gives each of her two sisters the same amount. How much money does each sister receive?	
		[3 marks]
	-	
	Answer	

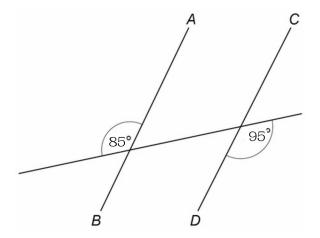
[4 marks]	
Answer	

17 Simplify fully 15a + 9b - 5a + 6k	b
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[2 marks]

Answer

18 Here are three straight lines.



Not drawn accurately

[2 marks]

Are the lines AB and CD parallel? Tick a box.

Yes



No



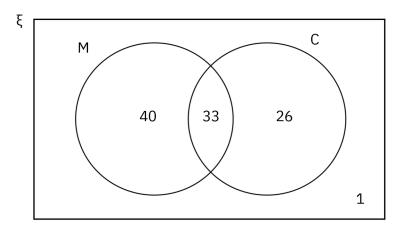
Show working to support your answer.

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

 ξ = the visitors to the coffee shop

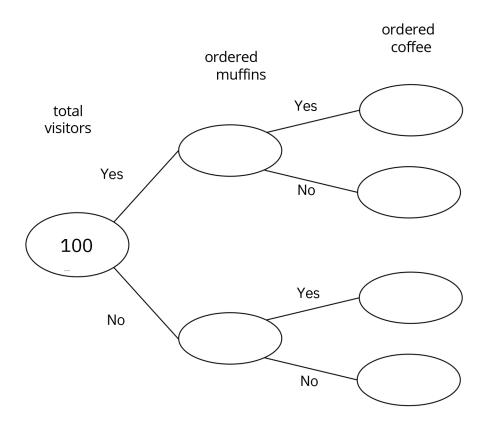
M = ordered muffins

C = ordered coffee



[4 marks]

Complete the frequency tree below.



20 (a)	The term-to-term rule for a sequence is	[2 marks]
	add 3 then divide by 2	
	The 1st term is 5 Work out the 3rd term.	
	Answer	
20 (b)	The term-to-term rule for a different sequence is multiply by 2 then subtract 7	[2 marks]
	The 3rd term of this sequence is 41. Work out the 1st term of the sequence.	
-		
	Answer	



Let a be a number greater than 5 and less than 8. Let b be a number greater than 2 and less than 5 [2 marks]

Work out a possible pair of values for a and b.

a = _____ b =

22
$$a = \begin{pmatrix} 5 \\ 2 \end{pmatrix}$$
 $b = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$

Circle the vector a – b

 $\begin{pmatrix} 4 \\ 0 \end{pmatrix} \qquad \begin{pmatrix} 4 \\ 4 \end{pmatrix} \qquad \begin{pmatrix} 6 \\ 4 \end{pmatrix} \qquad \begin{pmatrix} 6 \\ 0 \end{pmatrix}$ [1 mark]

Circle the vector a + b [1 mark]

 $\begin{pmatrix} 6 \\ 4 \end{pmatrix} \qquad \begin{pmatrix} 7 \\ 3 \end{pmatrix} \qquad \begin{pmatrix} 7 \\ 0 \end{pmatrix} \qquad \begin{pmatrix} 6 \\ 0 \end{pmatrix}$

END OF QUESTIONS