AQA



Please write clearly in	block capitals.	
Centre number	Candidate number	
Surname		
Forename(s)		
Candidate signature		
	I declare this is my own work.	

GCSE MATHEMATICS

Foundation Tier Paper 2 Calculator

Friday 10 November 2023

Morning

Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- a calculator
- mathematical instruments
- the Formulae Sheet (enclosed).

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top 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.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

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 work out your answer.









Please note that these worked solutions have neither been provided nor approved by AQA and may not necessarily constitute the only possible solutions. Please refer to the original mark schemes for full guidance.

Any writing in blue indicates what must be written in order to answer the questions and get the marks. The worked solutions have been designed to show the smallest amount of work which needs to be done to answer the question.

Anything written in green in a cloud doesn't have to be written in the exam.

Anything written in orange in a rectangle doesn't have to be written in the exam and is there to show what should be put into a calculator or measured using a ruler or protractor.

If you find any mistakes or have any requests or suggestions, please send an email to curtis@cgmaths.co.uk



Answer all questions in the spaces provided.				Do not write outside the box
1 Convert 800 800÷100 ← There works	o centimetres to metre are 100 centimetres i out how many lots o	es. n 1 metre. Dividing the 80 f 100 it is and therefore h	0 centimetres by 100 ow many metres it is	I mark]
	Answer	8	m	
2 The temper	ature was <i>–</i> 11°C an	d increases by 5°C		
Work out th	e new temperature.		F,	1 markl
-II+S + Adding 5 to) -11 increases -11 by	53	I	i iliaikj
	Answer	-6	°C	















Do not write outside the box

Complete the bank statement.



01/11/2021 Starting balance			736.28
05/11/2021 Rent		450.00	286.28
14/11/2021 Refund	25.00		311,28
27/11/2021 Wages	1830.29		2141.57
See the next page for an explanation			
Put all the numbers 4, 5, 6, 10 and 20 into the grid			

7

6

[3 marks]



.CG Maths.

0 5



	\sim
For Question 6	~
	~
On $01/11/2021$, there is £736.28 in the bank account. On $05/11/2021$, £450 is debited to pay for the rent. £736.28 - £450 = £286.28 so there is now this much in the bank account. On $14/11/2021$, £25 is credited for the refund. £286.28 + £25 = £311.28 so there is now this much in the bank account. On $27/11/2021$, £1830.29 is credited for wages. £311.28 + £1830.29 = £2141.57 so there is now this much in the bank account	ہ b ہ ہ
	\cup
	$\overline{}$
For Question 7	く
	く
(A: There are currently a 2 and 12 in this row. 2 x 12 = 24 then 120 ÷ 24 works out that	: 2
24 must be multiplied by 5 to get 120 so the missing number in this row is 5.	く
(く
B: There are currently a 3 and 2 in this column. $3 \times 2 = 5$ then $120 \div 6$ works out that 6	'
must be multiplied by 20 to get 120 so the missing number in this column is 20.	く
	4
C: There are currently a 12 and 1 in this column. $12 \times 1 = 12$ then $120 \div 12$ works out	く
ζ that 12 must be multiplied by 10 to get 120 so the missing number in this column is 10.	۰۲
(D Theorem 20 and 1 is this as 20 1 20 the 120 and 20 and 20	く
D: There are now a 20 and 1 in this row. $20 \times 1 = 20$ then $120 \div 20$ works out that 20	く
(must be multiplied by 6 to get 120 so the missing number in this row is 6.	2
$\int_{\Omega} F$. There are now a 2 and 10 in this row 2 x 10 - 20 then 120 + 20 works and that 20	2
E: There are now a 5 and 10 in this row. 5 x 10 = 50 them $120 \div 30$ works out that 30 must be multiplied by (i to get 120 so the missing number in this row is (i	く
	J





IB/M/Nov23/8300/2F

9		Connor is estimating the answer to 385 + 1479	Do not write outside the box
9	(a)	He rounds each number to the nearest 10	
		Work out his estimate. [2 marks]	
39	90+148	385 rounds to 390 to the nearest 10 as the 5 in the units place causes the 8 in the to place to round up to a 9 then everything after the tens place is set to 0 and is ignore 1479 rounds to 1480 to the nearest 10 as the 9 in the units place causes the 7 in the place to round up to an 8 then everything after the tens place is set to 0 and is ignore	ens ed ed
		Answer 1870	
9	(b)	Connor says, "My estimate will be more than the exact answer."	
		How does he know this without working out the exact answer ?	
Bo	oth num	ibers were rounded up	
	E	So the rounded numbers are more than the actual numbers. Both numbers are positive and are not being divided by so making them more will increase the estimate	
		Turn over for the next question	
			6
		Turn over ►	















40 (-)	A serves is much from an and shall in the natio	Do not write outside the box
12 (a)	A sauce is made from cream and stock in the ratio cream : stock = $1 : 6$	
	How much sauce can be made using 80 millilitres of cream?	
	[2 marks]	
80×7 +	1 part of the ratio represents 80 millilitres as 1 part represents the cream and there is 80 millilitres of cream. 1 + 6 = 7 so there are 7 parts in total in the ratio which represent the sau Multiplying the value of 1 part of the ratio by 7 works out that 7 parts of the ratio is worth 5	ce.) 60)
	Answer <u>S60</u> ml	
12 (b)	A different sauce is made from olive oil and tomato juice in the ratio olive oil : tomato juice = 1 : 14 What fraction of this sauce is olive oil? [1 mark]	
\sim	Answer	
	14 = 15 so there are 15 parts in total in the ratio. 1 out of these 15 parts is olive oil	





























A: There are 36 chocolates in total.
B: 4/9 x 36 = 16 with soft centres
C: There are 3 parts in total in the ratio and these represent the 36 chocolates. Dividing the 36 by 3 works out that 1 part of the ratio is worth 12 so there must be 12 dark chocolates.
D: Multiplying the value of 1 part of the ratio (12) by 2 works out that 2 parts is worth 24 so there must be 24 milk chocolates.
E: Subtracting the 16 with soft centres from the 36 total works out that there are 20 hard centre.
F: 16 - 5 = 11
G: 12 - 5 = 7
H: 24 - 11 = 13



























Assuming that each successful student received the minimum number of votes, each one would get 4/15 of the votes. Dividing 1 lot of votes by 4/15 of the votes works out that there can be 3.75 lots of the 4/15 and therefore 3.75 students reaching round 2. However this needs to be a whole number and is rounded down to 3 as 4 would be too many

















Do not write outside the box 29 A straight line passes through (3, 14) and (12, 32) Work out the equation of the line. Give your answer in the form y = mx + c[3 marks] The general equation of a straight line is y = mx + c, where m is the gradient and c is the y-intercept Gradient = (change in y)/(change in x). Change in y is expressed by subtracting the y-coordinate of 32-14 the first point from the y-coordinate of the second point. Change in x is expressed by subtracting 12-3 the x-coordinate of the first point from the x-coordinate of the second point. So the gradient is 2 Substituting the x and y-coordinates from the first point and 2 for m in the equation y = mx + mx14=2×3+0 X <u>ک</u> Х 8=C < Rearranging to find c by subtracting 2 x 3 from both sides y=2x+8Answer 2 and c is 8 END OF QUESTIONS 6

