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

F

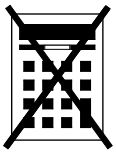
Foundation Tier Paper 1 Non-Calculator

Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:
- mathematical instruments.

You must **not** use a calculator.



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.

For Examiner's Use	
Pages	Mark
2–3	
4–5	
6–7	
8–9	
10–11	
12–13	
14–15	
16–17	
18–19	
20–21	
22–23	
24–25	
26	
TOTAL	

Advice

In all calculations, show clearly how you work out your answer.

Answer **all** questions in the spaces provided.

Do not write outside the box

1 Circle the answer to 0.02×100

[1 mark]

0.2 2 20 200

2 Circle the expression that is equal to $x + x + x - x + x$

[1 mark]

x $2x$ $3x$ $4x$

3 What is 260 millimetres in centimetres?

Circle your answer.

[1 mark]

0.26 cm 2.6 cm 26 cm 2600 cm

Do not write outside the box

4 Which shape **can** have sides with lengths that are all different?

Circle your answer.

[1 mark]

trapezium kite parallelogram rhombus

5 Work out $(-8) \times 5$

[1 mark]

Answer _____

Turn over for the next question

5

Do not write outside the box

6 Luke buys 4 apples and 5 bananas.

The total cost is £3.70

Each apple costs 35p

Work out the cost in pence of each banana.

[4 marks]

Answer _____ pence

Do not write outside the box

7 Rashid counted the pieces of homework he had done in three subjects.
He draws a pictogram to show the results.

Key: ⊕ represents 4 pieces of homework

Maths	⊕ ⊕ ⊕ ⊕ ⊕
English	⊕ ⊕ ⊕ ◖
Geography	

7 (a) Rashid had done 5 pieces of Geography homework.

Show this information on the pictogram.

[1 mark]

7 (b) Rashid spent 30 minutes on each piece of homework.

Work out the **total** time he spent on homework for these three subjects.
Give your answer in hours and minutes.

[3 marks]

Answer _____ hours _____ minutes

8

Do not write outside the box

8 A travel company is taking some passengers on a trip.

They can use coaches or minibuses.

Each coach can carry 53 passengers.

Each minibus can carry 12 passengers.

The passengers going on the trip would exactly fill 3 coaches.

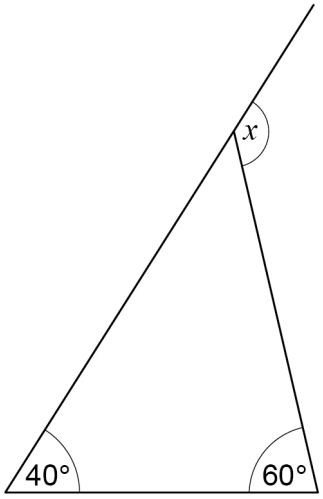
If the company uses only minibuses, how many will they need?

[4 marks]

Answer _____

Do not write outside the box

9 One side of a triangle is extended.



Not drawn accurately

Circle the size of angle x.

[1 mark]

100° 80° 60° 40°

10 Pavel uses his calculator to work out 352×7268

Circle the **last** digit in the answer.

[1 mark]

0 2 6 8

Turn over for the next question

6

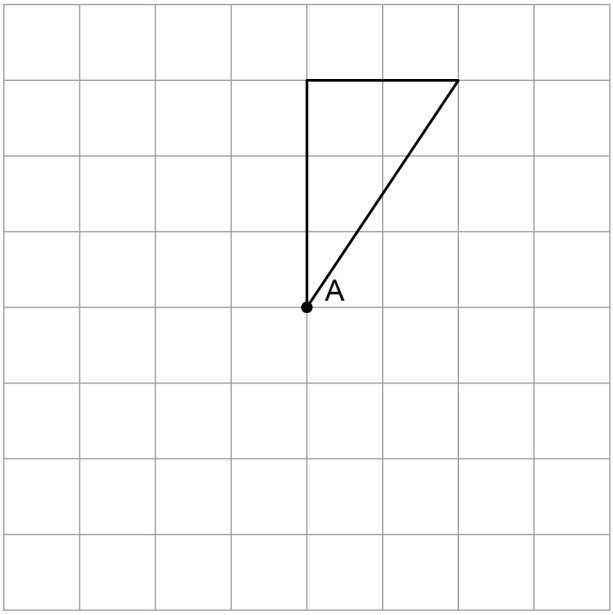
Do not write outside the box

11 Complete the diagram so that it has

rotational symmetry of order 4

centre of rotation at point A.

[2 marks]



Do not write outside the box

12 10% of 2100 is 210

Work out 43% of 2100

[3 marks]

Answer _____

Turn over for the next question

5

Do not write outside the box

13 Katy records the number of cars using a drive-through each hour for 24 hours.
Here are the results.

36	20	37	53	42	41	24	18	39	35	40	47
38	17	23	18	13	35	10	7	6	18	31	57

Katy makes this tally and frequency chart to put the data into groups.

Number of cars	Tally	Frequency
0 to 10		
10 to 20		
20 to 30		
30 to 40		
40 to 50		

Make **two** criticisms of Katy's tally and frequency chart.
You do **not** need to complete the chart.

[2 marks]

Criticism 1 _____

_____

_____

Criticism 2 _____

_____

_____

Do not write outside the box

14 Counters in a bag are red, white or blue.

A counter is picked at random.

Complete the table.

[2 marks]

	Red	**White**	**Blue**
Probability	0.15	0.4	

Turn over for the next question

4

Do not write outside the box

15 Here is a calculation.

$$31 \times 84 = 2604$$

You can use the calculation to help answer the following questions.

15 (a) Work out $2604 \div 84$

[1 mark]

Answer _____

15 (b) Work out 3.1×8.4

[1 mark]

Answer _____

15 (c) Work out 31×85

[2 marks]

_____

_____

_____

Answer _____

Do not write outside the box

16 A password has 30 characters.

It is made up of 5 numbers, 15 letters and some symbols.

Work out the ratio numbers : letters : symbols

Give your answer in its simplest form.

[2 marks]

Answer _____ : _____ : _____

17 Work out $\frac{5}{6} + \frac{7}{12}$

Give your answer as a mixed number.

[3 marks]

Answer _____

9

Turn over ►

Do not write outside the box

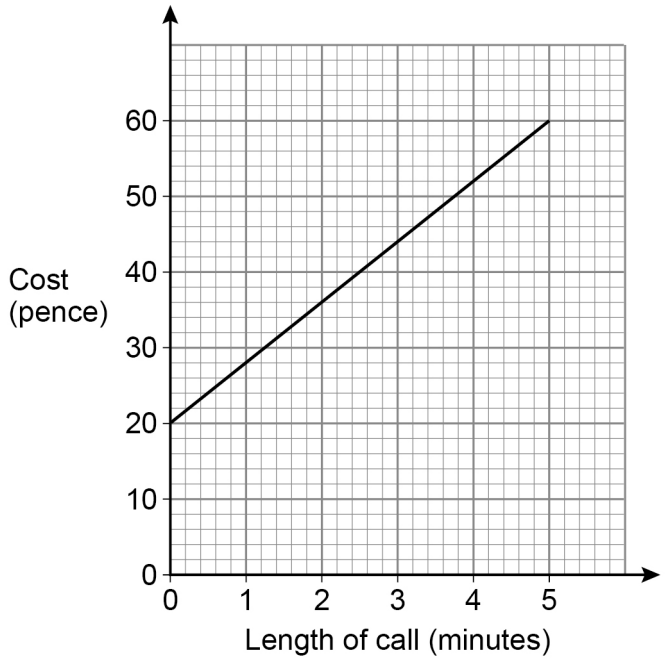
18 The cost of making a phone call is

a fixed charge

and

a charge per minute.

The costs of phone calls up to 5 minutes are represented by the graph.



18 (a) Write down the fixed charge.

[1 mark]

Answer _____ pence

Do not write outside the box

18 (b) Work out the charge per minute.

[2 marks]

Answer _____ pence

18 (c) Work out the cost of a phone call lasting 7 minutes.

[2 marks]

Answer _____ pence

Turn over for the next question

5

Do not write outside the box

19 A company sells bags of toffees and bags of mints.

Here are the numbers of sweets in 11 bags of toffees.

55 50 49 51 55 47 54 50 49 55 57

Here are the numbers of sweets in 10 bags of mints.

46 47 47 48 48 50 53 54 54 54

The company claims that the average number of sweets per bag is at least 50

Using medians, is the company's claim correct for each type of sweet?
You **must** work out the median for toffees and the median for mints.

[4 marks]

Toffees _____

_____

_____

Tick a box for toffees.

☐ Yes ☐ No

Mints _____

_____

_____

Tick a box for mints.

☐ Yes ☐ No

Do not write outside the box

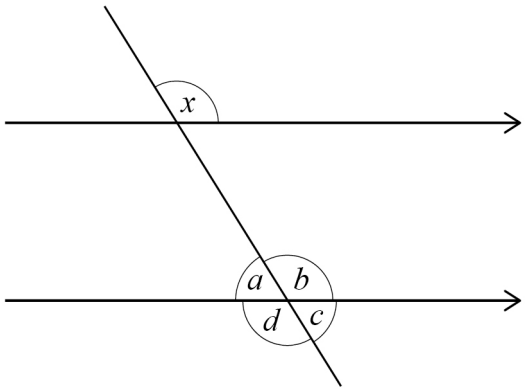
20 Freddie tries to work out $\dfrac{29.15 + 83.47}{9.82}$

His answer is 37.65

By rounding each number to the nearest 10, show that his answer is incorrect.

[3 marks]

21 A straight line passes through two parallel lines.



Not drawn accurately

Circle the angle that is **corresponding** to angle x.

[1 mark]

a b c d

8

Do not write outside the box

22 (a) Lucy wants to simplify $6a - (7b - 2a)$

She writes $4a - 7b$

Is she correct?

Tick a box.

☐ Yes ☐ No

Give a reason for your answer.

[1 mark]

22 (b) Lucy also wants to simplify $3p^2 \times 5p^7$

She says,

"Add 3 and 5, then add 2 and 7"

Her answer is $8p^9$

Tick a box for each part of her method.

[1 mark]

	Correct	**Not correct**
Add 3 and 5	☐	☐
Add 2 and 7	☐	☐

Do not write outside the box

22 (c) Lucy thinks of a number.

$10 \times$ the number $= 10 \div$ the number

Give a possible value of the number.

[1 mark]

Answer _____

23 Lily's age is 2 years and 4 months.

Hugo's age is 1 year and 8 months.

Write Lily's age in months as a fraction of Hugo's age in months.

Give your fraction in its simplest form.

[2 marks]

Answer _____

5

Do not write outside the box

24 Working alone, it takes Kevin 4 hours to paint an area of 12 m^2

Kevin and Steve are going to paint an area of 24 m^2

Kevin says,

"Working together at the same rate it will take us 8 hours, because 24 is 2 × 12"

Is he correct?

Tick a box.

☐ Yes ☐ No

Give a reason for your answer.

[1 mark]

Do not write outside the box

25 (a) Solve $5x + 6 > 3x + 15$

[3 marks]

Answer _____

25 (b) Write down the inequality represented by the number line.

[2 marks]

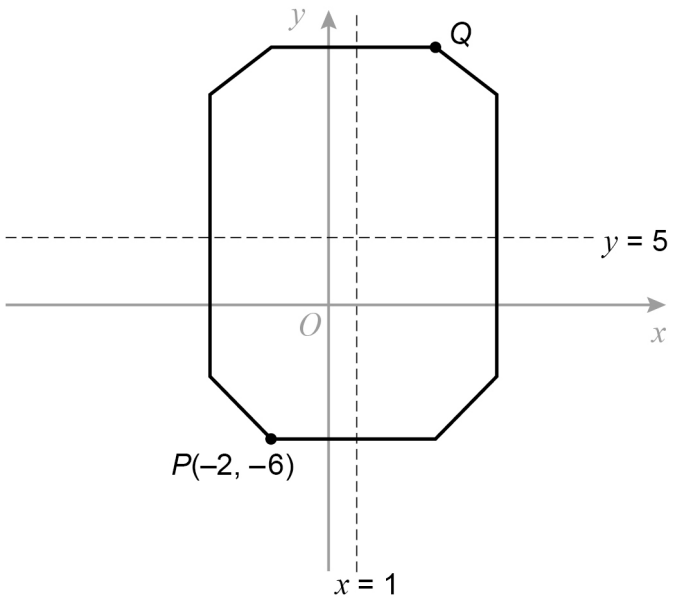
Answer _____

6

Turn over ►

Do not write outside the box

26 The diagram shows an octagon.



Not drawn accurately

$x = 1$ and $y = 5$ are lines of symmetry.

Work out the coordinates of point Q.

[2 marks]

Answer (_____ , _____)

Do not write outside the box

27 (a) Work out $2000 \times 70\,000$

Give your answer in standard form.

[2 marks]

Answer _____

27 (b) Work out $\dfrac{1.8 \times 10^{2}}{3 \times 10^{-1}}$

Give your answer as an ordinary number.

[2 marks]

Answer _____

6

Do not write outside the box

28 *A*, *B*, *C* and *D* are junctions on a motorway.

Not drawn accurately

distance *CD* = 3 × distance *AB*

distance *BC* = 25 miles

Salma drives from *A* to *C*.

She drives for 30 minutes at an average speed of 62 miles per hour.

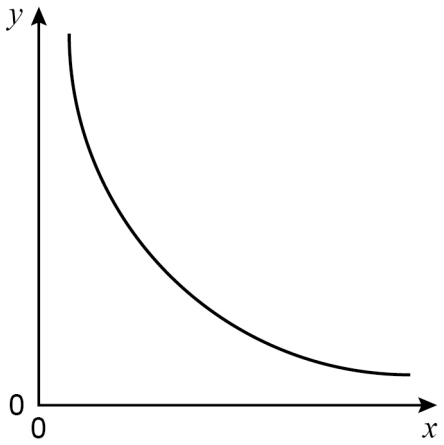
Work out the distance *AD*.

[4 marks]

Answer _____ miles

Do not write outside the box

29 Here is a sketch of a graph.



Circle the equation of the graph.

k is a constant.

[1 mark]

$y = kx$ $\quad$ $y = k + x$ $\quad$ $y = k - x$ $\quad$ $y = \frac{k}{x}$

30 Write 200 as a product of prime factors.

Give your answer in index form.

[3 marks]

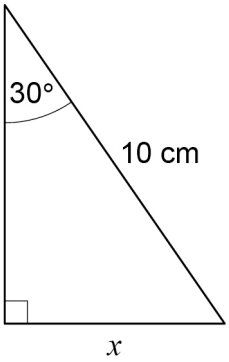
Answer _____

8

Turn over ►

Do not write outside the box

31 Here is a right-angled triangle.



Not drawn accurately

Use trigonometry to work out the value of x.

[3 marks]

Answer _____ cm

32 Factorise $x^2 + 7x + 10$

[2 marks]

Answer _____

END OF QUESTIONS

5

Do not write outside the box

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED