

# Mathematics

## Paper 1

### (Non-Calculator)

## Foundation Tier

Edexcel GCSE

SET 3

# Mathematics Paper 1 (Non-Calculator) Foundation Tier

## Edexcel GCSE SET 3

Name

Total marks



Paper length: 1hr 30mins

### Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided – there may be more space than you need.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may not be used.

### Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Question	Mark
1	
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29	

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

This practice paper is based on the topics from the **advanced information for the November 2024 exam series**.

*Please note, this practice paper is an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers*

- 1 Write  $\frac{7}{10}$  as a decimal.

-----  
(Total for Question 1 is 1 mark)

---

- 2 Write 3372 to the nearest hundred.

-----  
(Total for Question 2 is 1 mark)

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- 3 Simplify  $b + 7b - 3b$

-----  
(Total for Question 3 is 1 mark)

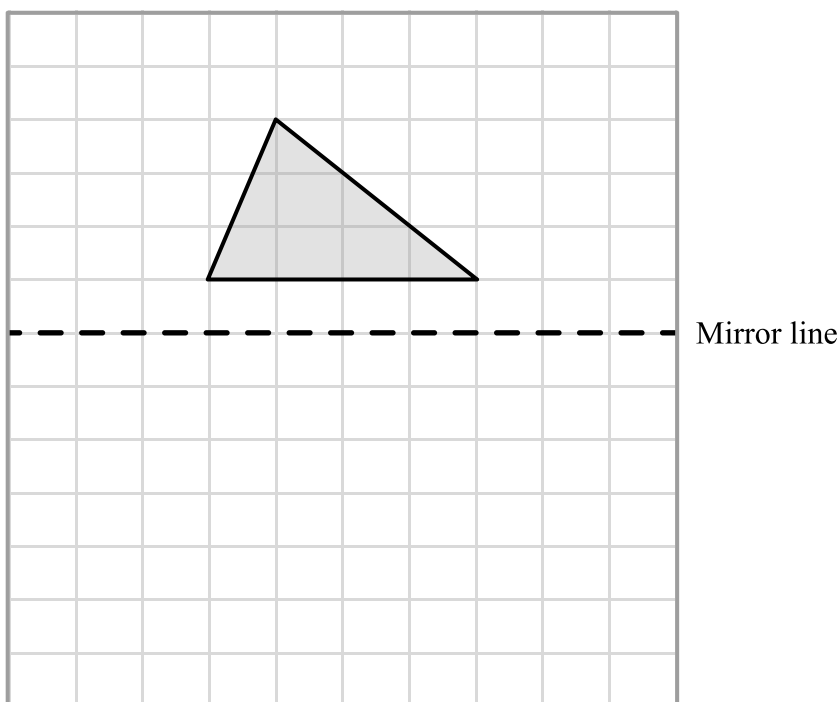
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- 4 Write a multiple of 7 that is between 20 and 30.

-----  
(Total for Question 4 is 1 mark)

---

- 5 On the grid, reflect the shaded shape in the mirror line.



(Total for Question 5 is 1 mark)

- 6 Change 45 centimetres into millimetres.

*mm*

(Total for Question 6 is 1 mark)

- 7 Jordan earns £240 during May.

He spends  $\frac{1}{2}$  of his money on clothes.

He spends £30 on food.

How much money does Jordan have left?

£

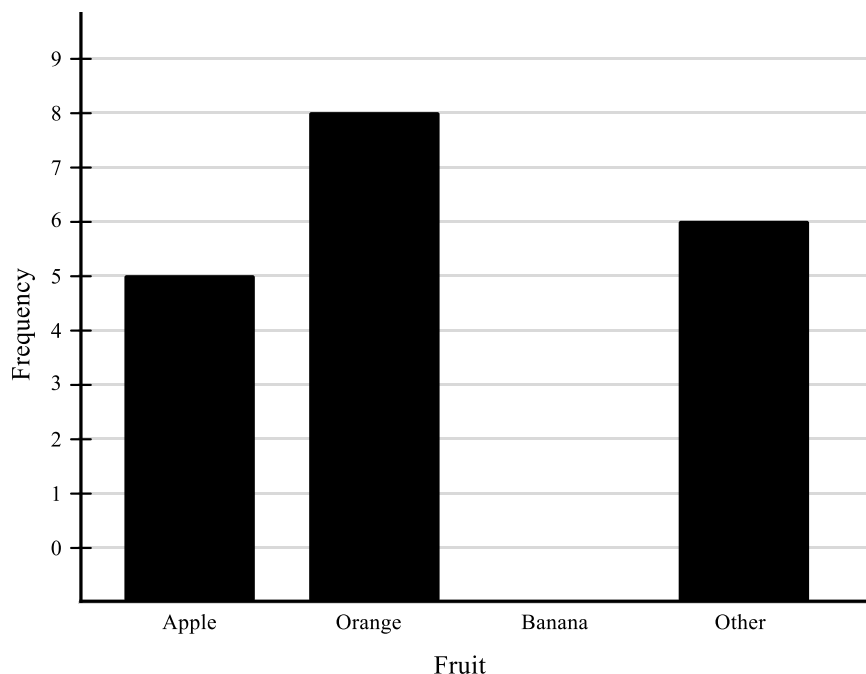
(Total for Question 7 is 3 marks)

8 There are 28 students in Katie's class.

On Monday, each student brought one piece of fruit as a snack.

Katie recorded the fruit that each student brought.

This chart shows Katie's results. One bar is missing.



Use the chart to work out how many students brought a banana.

-----  
(Total for Question 8 is 3 marks)

9 A garden centre sold 24 plants.

7 had purple flowers, 11 had pink flowers and 6 had white flowers.

Write down the ratio of plants sold with white flowers : plants sold with non-white flowers

Give your answer in its simplest form.

-----  
(Total for Question 9 is 2 marks)

**10** (a) Solve  $p + 2 = 11$

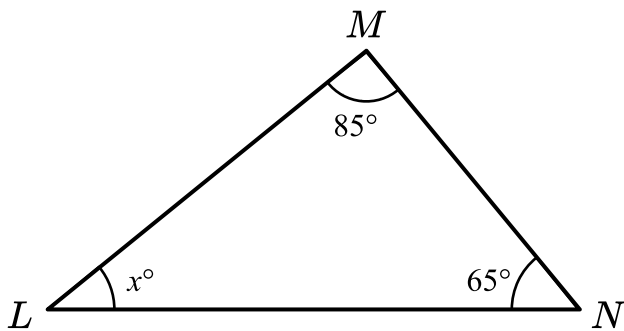
$p =$  .....  
(1)

(b) Solve  $5q = 30$

$q =$  .....  
(1)

**(Total for Question 10 is 2 marks)**

**11**  $LMN$  is a triangle.



Work out the size of angle  $x$ .

.....  
(Total for Question 11 is 2 marks)

12 Here is some information about the minimum and maximum temperatures in Finland last year.

	Minimum	Maximum
January	$-13^{\circ}\text{C}$	$-6^{\circ}\text{C}$
June	$6^{\circ}\text{C}$	

(a) The maximum temperature in June was  $21^{\circ}\text{C}$  warmer than the maximum temperature in January.

What was the maximum temperature in June?

----- $^{\circ}\text{C}$

(2)

(b) Fiona visited Finland in 2023.

During her visit, the temperature was  $-10^{\circ}\text{C}$ .

Did Fiona visit Finland in January or June?

Give a reason for your answer.

She visited in -----

Reason: -----

-----

(2)

-----

(Total for Question 12 is 4 marks)

**13** (a) Work out  $\frac{3}{4} - \frac{5}{8}$

-----  
(2)

(b) Work out  $\frac{2}{7} \times \frac{3}{10}$

Give your answer as a fraction in its simplest form.

-----  
(2)

**(Total for Question 13 is 4 marks)**

---

**14** Nia flips a biased coin. The probability the coin lands on heads is 0.3.

(a) Write down the probability that the coin lands on tails.

-----  
(1)

Nia flips the coin 200 times.

(b) Work out an estimate for the number of times the coin will land on heads.

-----  
(2)

**(Total for Question 14 is 3 marks)**



- 15** The cost of 3 adult tickets for the cinema is £18.  
The cost of 2 adult tickets and 5 child tickets is £28.50.

Work out the cost of 4 adult tickets and 2 child tickets.  
You must show all your working.

£ .....

**(Total for Question 15 is 4 marks)**

---

- 16** (a) Expand  $3(2p + 7)$

.....  
**(1)**

- (b) Factorise  $5q - 30$

.....  
**(1)**

**(Total for Question 16 is 2 marks)**

---

**17** Here is a list of ingredients for making 12 cupcakes.

**Ingredients for 12 cupcakes**

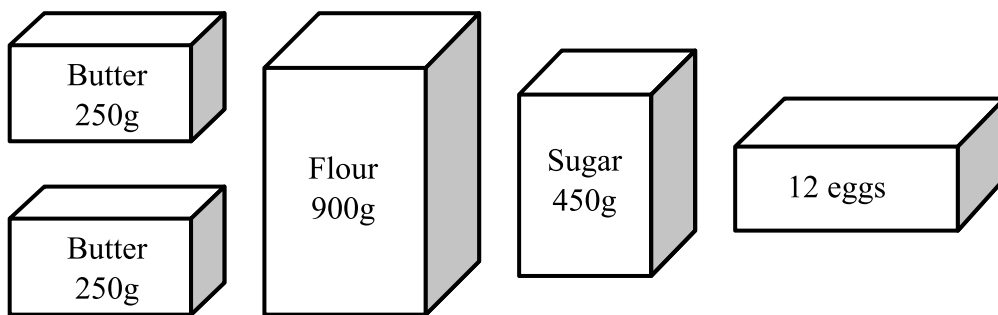
125g      butter

100g      sugar

2          eggs

150g      flour

Katrina buys the following ingredients:



What is the maximum number of cupcakes Katrina can make?

-----  
**(Total for Question 17 is 4 marks)**

18 Work out an estimate for  $\frac{620 \times 385}{81}$

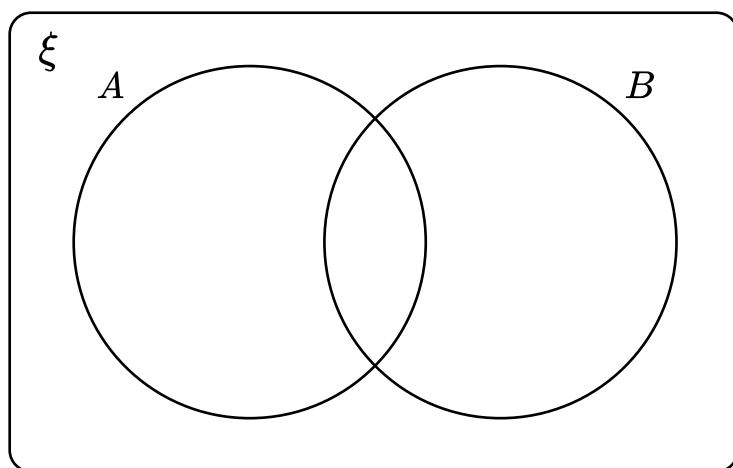
-----  
(Total for Question 18 is 3 marks)

19  $\xi = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$

$A = \{\text{even numbers}\}$

$B = \{\text{prime numbers}\}$

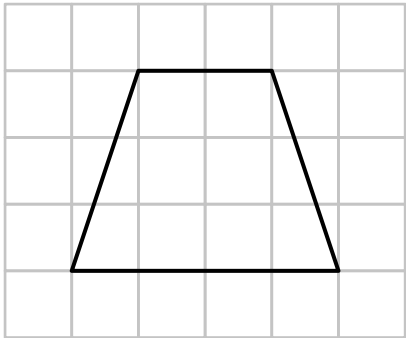
Complete the Venn diagram for this information.



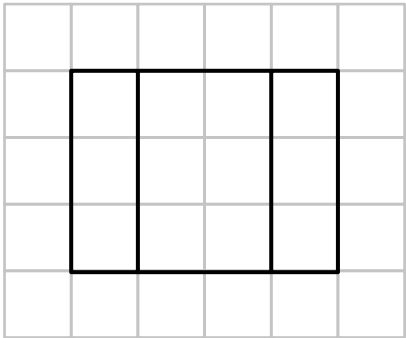
(Total for Question 19 is 3 marks)

20 Shown are the front elevation and plan of a solid shape, drawn on centimetre grids.

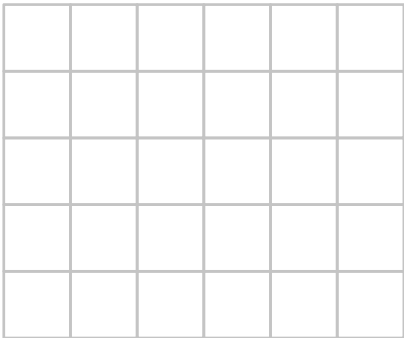
Front elevation



Plan



On the centimetre grid below, draw the side elevation of the solid shape.



(Total for Question 20 is 2 marks)

- 21** Stacey buys 300 glow sticks for £40.  
Stacey sells all of the glow sticks. She charges 50p for 3 glow sticks.  
Calculate Stacey's percentage profit.

-----  
**(Total for Question 21 is 4 marks)**

---

- 22** Write 208 as a product of its prime factors.

-----  
**(Total for Question 22 is 2 marks)**

---

23 (a) These are the first five terms in a sequence.

12            17            22            27            32

Find an expression, in term of  $n$ , for the  $n$ th term of this sequence.

-----  
(2)

(b) The  $n$ th term of a different sequence is  $4n - 3$ .

Is 100 in this sequence?

Show how you decide.

(2)

(c) In another sequence, the next term is made by adding the previous two terms.

Which of these sequences follows this rule?

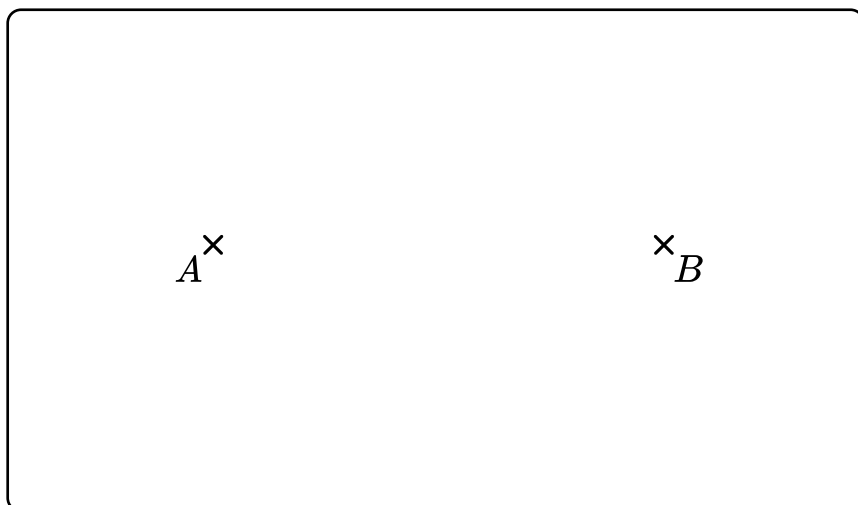
A -3    2    -1    3    -2	B -5    3    -2    1    -1
C -4    1    3    5    7	D -2    -2    -4    2    -2

Sequence  
-----  
(1)

(Total for Question 23 is 5 marks)

- 24 The diagram shows the position of two phone masts.

The scale of the diagram is  $1\text{cm}$  represents  $20\text{m}$ .



Lydia lives between two phone masts,  $A$  and  $B$ .

Lydia lives closer to mast  $A$  than mast  $B$ , but still within  $80\text{m}$  of mast  $B$ .

On the diagram, shade the area where Lydia could live.

(Total for Question 24 is 3 marks)

- 25 Write these numbers in order of size.

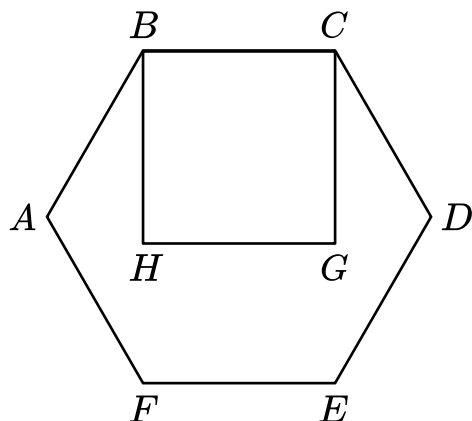
Start with the smallest.

$3.65 \times 10^5$       365       $36.5 \times 10^{-2}$       0.0365

(Total for Question 25 is 2 marks)

**26**  $ABCDEF$  is a regular hexagon.

$BCGH$  is a square.

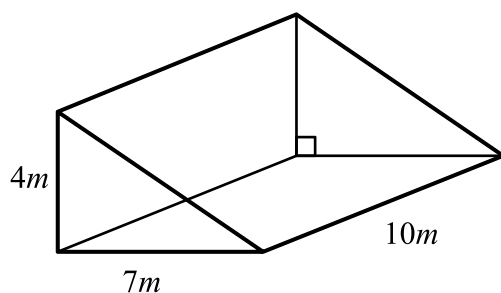


Show that  $\text{angle } BHG = 3 \times \text{angle } ABH$ .

**(Total for Question 26 is 4 marks)**



27 Here is a triangular prism.



(a) Work out the volume of the prism.

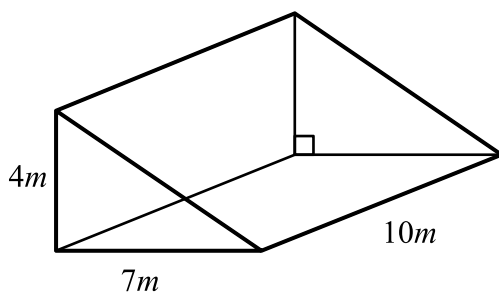
.....  $m^3$

(2)

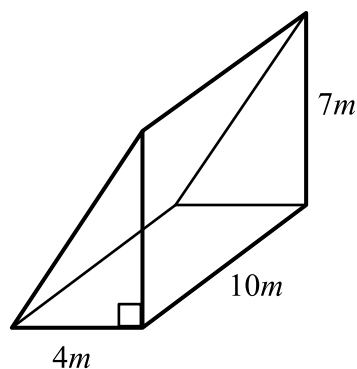
(b) In its original position, the pressure on the table due to the prism is  $60 \text{ N/m}^2$ .

The prism is then rotated  $90^\circ$ , as shown.

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$



Original position



New position

Work out the pressure on the table after the prism has been rotated.

.....  $\text{N/m}^2$

(3)

**(Total for Question 27 is 5 marks)**

- 28** In a football team there are 6 boys and 4 girls. The mean height of the boys is  $130\text{cm}$  and the mean height of the girls is  $120\text{cm}$ .

Tiami says the mean height of all the players is  $126\text{cm}$ .

Is Tiami correct?

You must show how you get your answer.

**(Total for Question 28 is 4 marks)**

---

- 29** (a) Simplify  $3p^2q \times 4p^3q^2$

-----  
**(2)**

- (b) Given  $a = 4b^3$  and  $b = m^2$ , write an expression for  $a$  in terms of  $m$ .

Give your answer in its simplest form.

$a =$  -----

**(2)**

**(Total for Question 29 is 4 marks)**

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