



THIRD SPACE
LEARNING

Mathematics

Paper 2

(Calculator)

Foundation Tier

AQA GCSE

SET 3

Mathematics Paper 2 (Calculator) Foundation Tier AQA

GCSE SET 3

Name

Total marks

Paper length: 1hr 30mins



Question	Mark
1	
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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 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.

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 What is the value of the 7 in the number 672.1

[1 mark]

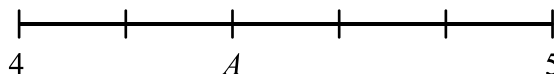
Answer _____

2 How many seconds are there in 12 minutes?

[1 mark]

Answer _____

3 Here is a number line.



What number is at A ?

[1 mark]

Answer _____

4 Which of these numbers is double a square number?

Circle your answer.

[1 mark]

100 16 12 50

5 Here is a list of numbers.

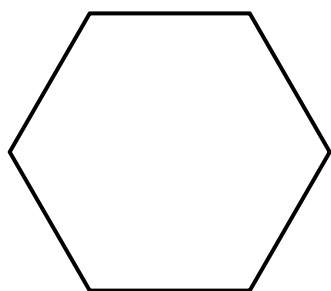
4 5 8 4 6 2 1 1 5 2 5

Write down the mode of the numbers.

[1 mark]

Answer _____

6 Here is a regular polygon.



(a) Write down the name of the polygon.

[1 mark]

Answer _____

(b) Write down the order of rotational symmetry of the polygon.

[1 mark]

Answer _____

- 7 Lesley is running a cheerleading class.

The costs of running the class are shown in the table.

Hall hire	£18
Insurance	£6
Snacks	£3

10 children attend the class. Each child pays £5.

Work out the profit Lesley makes from her class.

[2 marks]

Answer £ _____

- 8 A farmer keeps sheep and pigs.

There are p pigs on the farm.

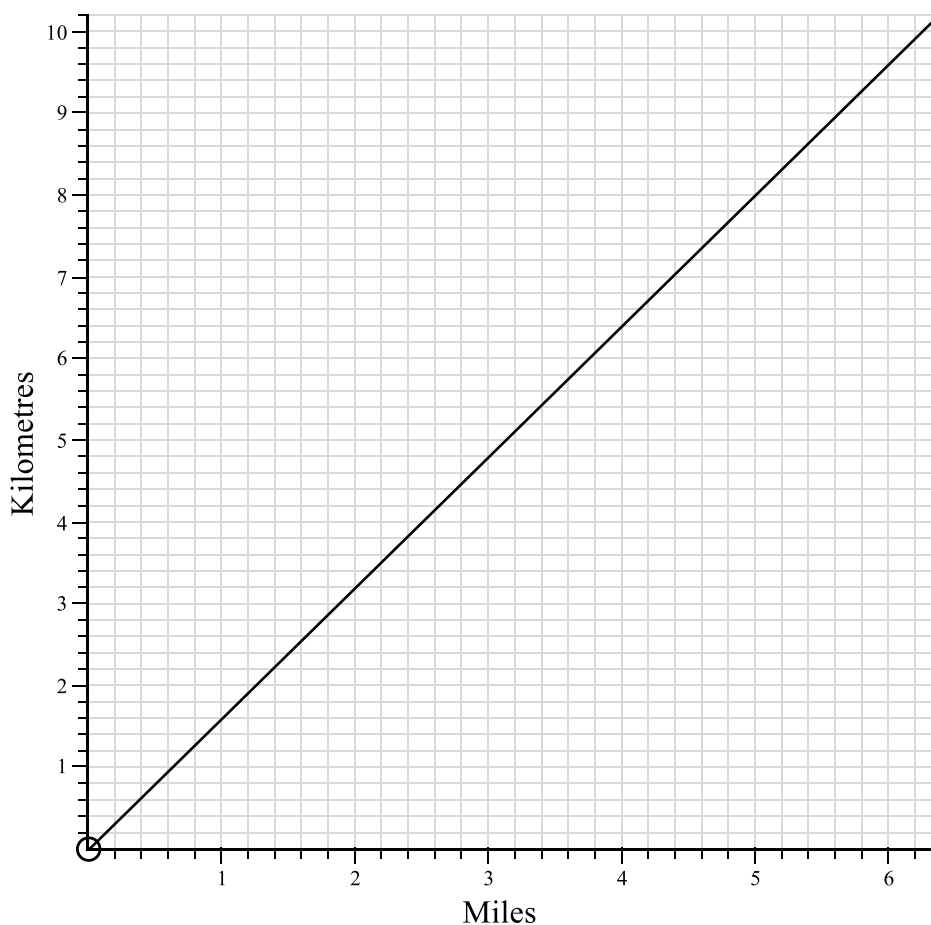
There are twice as many sheep as pigs on the farm.

Write an expression, in terms of p , for the total number of animals on the farm.

[1 mark]

Answer _____

9 You can use this graph to convert between *miles* and *kilometres*.



Ifan's house is 6 *miles* from his Grandma's house.

One day, Ifan cycles to his Grandma's house.

He stops for a rest after cycling 3.2 km .

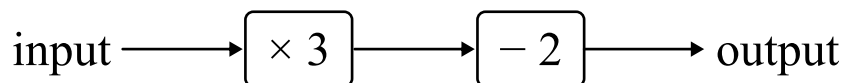
How much further does Ifan have to cycle?

Give your answer in *miles*.

[2 marks]

Answer _____

10 Here is a number machine.

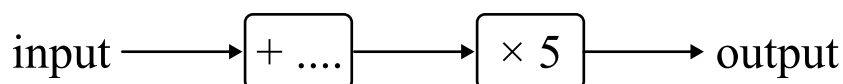


(a) Work out the output when the input is 9.

[1 mark]

Answer _____

(b) Here is a different number machine.



When the input is 6, the output is 85.

Complete the number machine.

[2 marks]

- 11** The same bike is sold in two shops.

Both shops have an offer on.

Shop A

Usual price: £145

Offer: 20% off

Shop B

Usual price: £130

Offer: 15% off

Ben wants to purchase the bike.

Which shop is selling the bike at the lowest price?

You must show your working.

[3 marks]

Answer _____

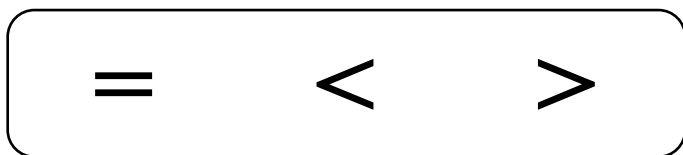
- 12** $C = 2m + 5n$

Work out the value of C when $m = 10$ and $n = -3$

[2 marks]

Answer _____

13 The box below contains three mathematical symbols.



From the box, choose a symbol to make each of the following statements correct.

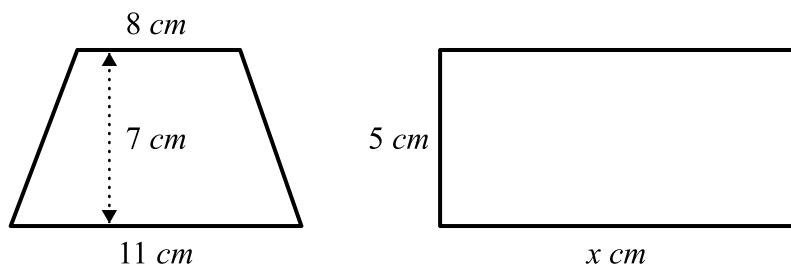
[3 marks]

(a) $\frac{3}{8}$ $\frac{5}{8}$

(b) $\frac{5}{7}$ $\frac{16}{21}$

(c) $\frac{9}{4}$ $2\frac{1}{4}$

14 The diagram shows a trapezium and a rectangle.



The area of the rectangle is double the area of the trapezium.

Find the value of x .

[3 marks]

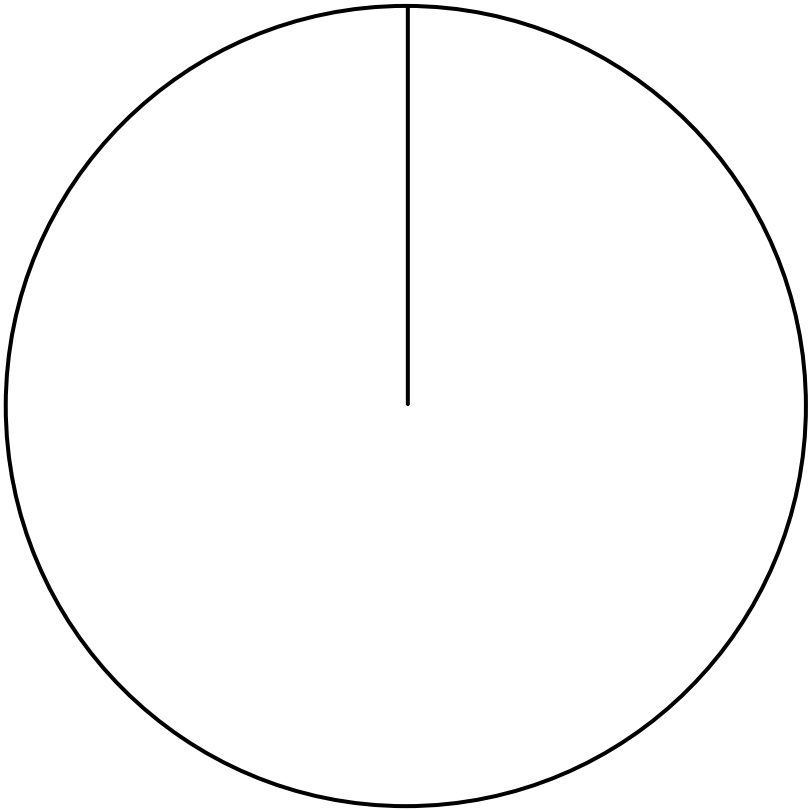
Answer _____

15 The table gives information about the weather over a number of days.

Weather	Number of days
Sunny	11
Rainy	13
Cloudy	6

Draw and label a pie chart to show this information.

[3 marks]



- 16 Strawberries are sold in containers of 250g, 400g or 600g.

Strawberries
250g
£1.90

Strawberries
400g
£2.20

Strawberries
600g
£3.60

Which container is the best value for money?

You must show all of your working.

[4 marks]

Answer _____

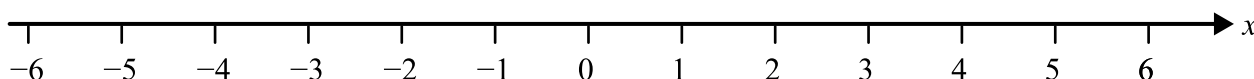
- 17 (a) Solve $3(x - 2) < 6$

[2 marks]

Answer _____

- (b) Represent your solution on the number line below.

[2 marks]



18 (a) p and q are prime numbers.

Tick the correct statement.

[1 mark]

$p + q$ is always even	
$p + q$ is always odd	
$p + q$ can be even or odd	

(b) m and n are both negative numbers.

Decide whether each statement is true or false.

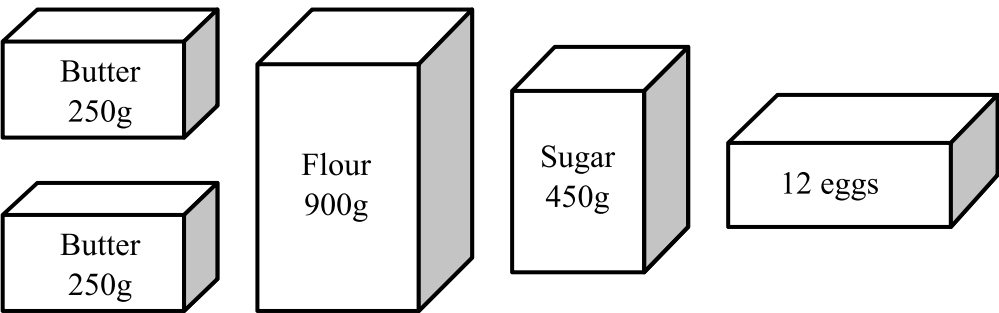
[2 marks]

	True	False
mn is negative		
$2m$ is positive		
n^2 is positive		

19 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:

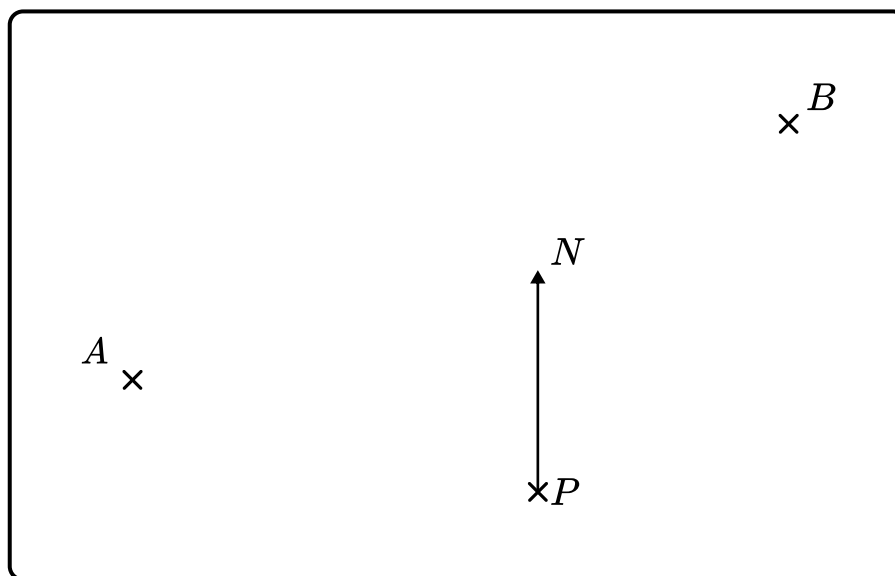


What is the maximum number of cupcakes Katrina can make?
You must show your working.

[4 marks]

Answer _____

- 20 The accurately drawn map shows the positions of two airports, A and B , and a plane, P .



Scale: 1 cm represents 10 km

- (a) How far is the plane from airport A ?

[2 marks]

Answer _____

- (b) The plane needs to fly to airport B . Write down the bearing of airport B from the plane.

[2 marks]

Answer _____

- 21 Jake wants to plant a hedge.
- Jake wants his hedge to contain 4 plants per metre.
- Jake wants his hedge to be 60m long.
- Jake will plant hazel, hawthorn and oak trees in the ratio 2:2:1.
- The cost of each type of tree is shown in the table.

Hazel	Hawthorn	Oak
65p per plant	59p per plant	85p per plant

Work out the total cost of the plants for the hedge.

Give your answer in pounds and pence.

[5 marks]

Answer _____

22 Lucy owns a shop.

Lucy is ordering items to make up gift bags. The gift bags will contain 1 mug,
1 spoon and 1 sachet of hot chocolate.

Mugs come in packs of 6.

Spoons come in packs of 20.

Hot chocolate sachets come in packs of 15.

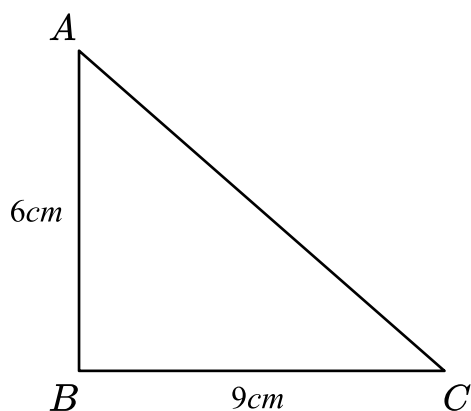
Lucy wants to order the same number of mugs, spoons and hot chocolate sachets.

What is the smallest number of each item she can order so that she has the
same number of each item?

[2 marks]

Answer _____

23 Here is triangle ABC .



Not drawn
accurately

The perimeter of the triangle is $25cm$.

By calculation, decide whether triangle ABC is a right-angled triangle.

[3 marks]

☐

ABC is a right-angled triangle

☐

ABC is not a right-angled triangle

24 Hollie, Izzy and Jess all roll the same dice a number of times.
They each record how many times they roll a 6.

The table below shows their results.

	Hollie	Izzy	Jess
Number of rolls	20	50	200
Number of 6s	1	14	31

(a) Whose results give the best estimate of the probability of rolling a 6 with this dice?
Explain your answer.

[1 mark]

because

(b) Hollie says ‘I think the dice is biased’.
Do Hollie’s results support this statement? Explain your answer.

[1 mark]

because

(c) Do the overall results support this statement? Explain your answer.

[1 mark]

because

25 $8y = 5x$

Which statement is correct?

Tick one box.

[1 mark]☐

y is 62.5% of x

☐

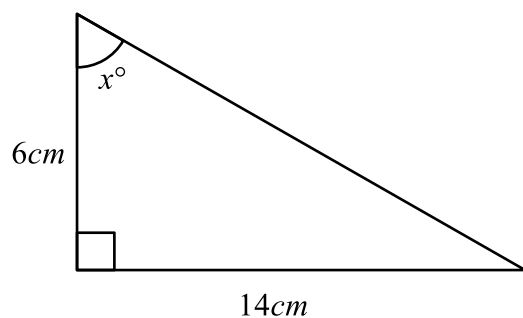
y is 160% of x

☐

x is 40% of y

☐

x is 85% of y

26 Here is a right-angled triangle.

Use trigonometry to work out the value of x .

Give your answer correct to 1 decimal place.

[3 marks]

Answer _____ °

27 A factory has 12 machines.

When all 12 machines are running, the factory produces 345600 bars of chocolate over an 8 hour operating window.

One day, 3 of the machines are broken.

For how long must the remaining machines work to ensure the same number of chocolate bars are made?

Give your answer in hours and minutes.

[3 marks]

Answer _____ hours _____ minutes

28 A linear sequence starts

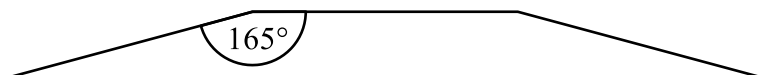
13 17 21 25

Circle the expression for the n th term.

[1 mark]

$n + 12$ $n + 4$ $4n + 9$ $4n + 13$

29 Here is a section of a regular polygon



Not drawn
accurately

Work out the number of sides of the polygon.

[2 marks]

Answer _____

30 (a) Write the number 0.00238 in standard form.

[1 mark]

Answer _____

(b) Write 2.71×10^5 as an ordinary number.

[1 mark]

Answer _____

(c) Work out $5.4 \times 10^4 - 3.7 \times 10^3$

Give your answer in standard form.

[1 mark]

Answer _____

31 $\mathbf{a} = \begin{pmatrix} x \\ 5 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} 1 \\ y \end{pmatrix}$

(a) Find $3\mathbf{a} - 2\mathbf{b}$ as a column vector, in terms of x and y

[2 marks]

Answer $\begin{pmatrix} \\ \end{pmatrix}$

(b) Given that $\mathbf{a} + \mathbf{b} = \begin{pmatrix} 4 \\ 3 \end{pmatrix}$,

$$\mathbf{a} + \mathbf{b} = \begin{pmatrix} 4 \\ 3 \end{pmatrix}$$

Find the values of x and y .

[2 marks]

$x =$ _____

$y =$ _____

32 Here is an identity.

$$(x + b)(x - 7) = x^2 - ax - 28$$

Work out the value of a and the value of b .

[2 marks]

$a =$ _____

$b =$ _____

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