

Please write clearly in block capitals.

School

Class

Name

Teacher

GCSE MATHEMATICS

F

Foundation Tier · Paper 1 (Non-Calculator) · 2022 series · mapped to the Edexcel 1MA1 specification

Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- a ruler
- a protractor
- a pair of compasses.

You must NOT use a calculator.

Instructions

- Use black ink or black ball-point pen.
- Answer all questions in the spaces provided.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise stated.

Information

- The maximum mark for this paper is 80.
- The marks for questions are shown in brackets.
- You are reminded of the need for good English and clear presentation.

For Examiner's Use	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
TOTAL	

Answer ALL questions. Write your answers in the spaces provided. You must show your working.

1**Work with whole numbers and decimals.****1.1**

Write the number 3508 in words.

[1 mark]**1.2**

Round 2649 to the nearest hundred.

[1 mark]**Answer****1.3**

Work out 4.2×20 .

[1 mark]**Answer****1.4**

Work out $\frac{2}{3}$ of 150.

[2 marks]**Answer****1.5**

Write these in order, smallest first: 0.4, $\frac{1}{2}$, 0.45.

[1 mark]**Answer****2****Work with fractions, decimals and percentages.****2.1**

Write 0.4 as a fraction in its simplest form.

[2 marks]**Answer****2.2**

Find 25% of £48.

[1 mark]**Answer £**

2.3

Write 35% as a decimal.

[1 mark]

Answer

2.4

Work out $\frac{1}{3} + \frac{1}{6}$.

[2 marks]

Answer

2.5

Write $\frac{7}{20}$ as a percentage.

[2 marks]

Answer

%

3

Solve money problems.

3.1

A coat costs £60. In a sale it is reduced by 20%.
Work out the sale price.

[3 marks]

Answer £

3.2

A 4-pack of yoghurt costs £3.20. A single yoghurt costs 90p.
Show that the 4-pack is better value. Show your working.

[3 marks]

4

Work with algebra.

4.1

Simplify $6a + 2a - 3a$.

[1 mark]

Answer

4.2

Simplify $3x + 5y + 2x - 2y$.

[2 marks]

Answer

4.3

Solve $3x = 18$.

[1 mark]

x =

4.4

Solve $2x + 7 = 19$.

[2 marks]

x =

4.5

Expand $4(y + 3)$.

[1 mark]

Answer

4.6

Work out the value of $2x + 5$ when $x = 6$.

[1 mark]

Answer

5

Work with sequences.

5.1

Here is a sequence: 4, 9, 14, 19, ...
Write down the next two terms.

[2 marks]

Answer

5.2

Describe the rule for continuing this sequence.

[2 marks]

6

Work with ratio and proportion.

6.1

Write the ratio 14 : 21 in its simplest form.

[1 mark]

Answer

6.2

Share £45 in the ratio 4 : 5.

[3 marks]

Answer £

and £

6.3

A recipe for 4 people needs 300 g of flour.
Work out the flour needed for 6 people.**[2 marks]**

Answer

g

6.4

6 identical pens cost £4.80.
Work out the cost of 4 of these pens.**[2 marks]**

Answer £

7

Work with angles.**Figure 1***Diagram NOT accurately drawn*

7.1

Figure 1 shows angles on a straight line.
Work out the size of angle x .**[1 mark]**

Answer

°

7.2

A triangle has two angles of 45° and 65° .
Work out the third angle.

[2 marks]

Answer

7.3

What is the name of an angle that is bigger than 90° but less than 180° ?

[1 mark]

Answer

7.4

Angles around a point are 130° , 95° and x .
Work out x .

[2 marks]

Answer

7.5

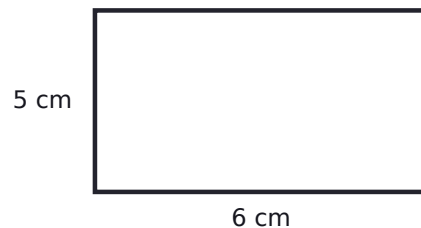
Write down two properties of a rectangle.

[2 marks]

8

Work with area and perimeter.

Figure 2 shows a rectangle 6 cm by 5 cm.

*Diagram NOT accurately drawn*

8.1

Work out the area of the rectangle in Figure 2.

[2 marks]

Answer

cm²

Do not
write
outside the
box

8.2

Work out the perimeter of the rectangle in Figure 2.

[1 mark]

Answer

cm

8.3

A triangle has a base of 10 cm and a height of 4 cm.
Work out its area. Use $\text{area} = \frac{1}{2} \times \text{base} \times \text{height}$.

[2 marks]

Answer

cm²

8.4

State the units you would use to measure the area of a field.

[1 mark]

Answer

9

Work with averages and data.

9.1

Work out the mean of: 3, 6, 8, 5, 3.

[2 marks]

Answer

9.2

Write down the mode of: 3, 6, 8, 5, 3.

[1 mark]

Answer

9.3

Work out the median of: 7, 3, 9, 2, 6.

[2 marks]

Answer

9.4

Work out the range of: 14, 6, 9, 21, 5.

[1 mark]

Answer

Table 1 shows the favourite pet of 35 pupils.

Pet	Dog	Cat	Fish	Rabbit
Pupils	12	10	8	5

9.5

Using Table 1, write down the most popular pet and how many more chose it than fish.

[2 marks]

10

Work with probability.

10.1

A fair six-sided dice is rolled. Write the probability of getting an odd number.

[1 mark]

Answer

10.2

A bag has 4 red and 4 blue counters. Write the probability of taking a red counter.

[1 mark]

Answer

10.3

For the same bag, write the probability of NOT taking a red counter.

[1 mark]

Answer

10.4

Choose the best word for the chance of rolling a 0 on an ordinary dice: certain, even, impossible.

[1 mark]

Answer

10.5

A fair dice is rolled 60 times.
Work out how many times you would expect to roll a three.

[2 marks]

Answer

11

Work with coordinates and graphs.

Figure 3 shows point P on a grid.

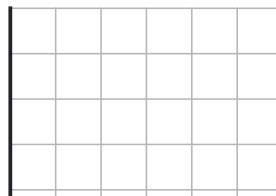
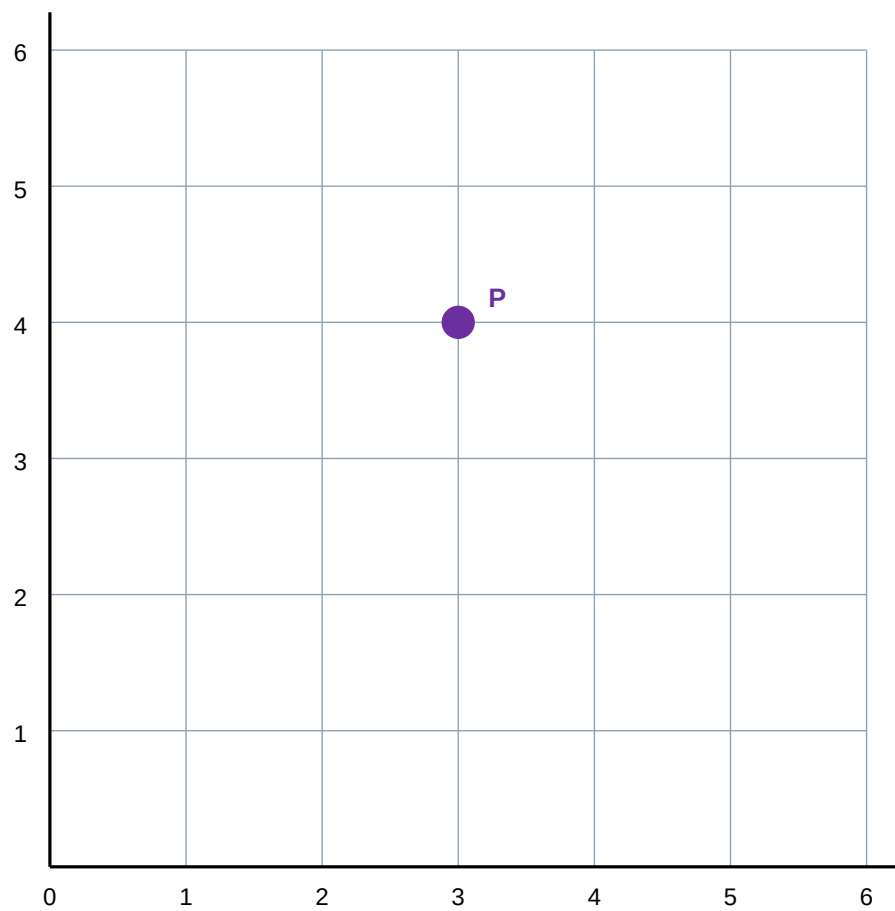


Figure 3



Read each coordinate as (x, y).

11.1

Write down the coordinates of point P in Figure 3.

[1 mark]

Answer

11.2

Write down the coordinates of a point 2 squares to the left of P.

[1 mark]

Answer

11.3

Complete the table of values for $y = 2x$.
When $x = 1, 2, 3$, find y .

[2 marks]

11.4

A taxi charges £4 plus £3 for each mile.
Work out the cost of a 5-mile journey.

[2 marks]

Answer £

12

Solve problems.

12.1

Maya buys 3 books at £3.50 each and pays with a £20 note.
Work out her change.

[3 marks]

Answer £

12.2

A film starts at 19:20 and lasts 2 hours 15 minutes.
Work out the time it finishes.

[3 marks]

Answer

END OF QUESTIONS