



THIRD SPACE
LEARNING

Mathematics

Paper 1

(Non-Calculator)

Foundation Tier

Edexcel GCSE

SET 1B

Mathematics Paper 1 (Non-Calculator) Foundation Tier

Edexcel GCSE SET 1B

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.

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 2022 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 Here is a list of numbers.

Write down a factor of 15.

2 4 5 30 150

(Total for Question 1 is 1 mark)

2 Calculate 2^3

(Total for Question 2 is 1 mark)

3 Simplify $4a + 7b + 3a - 2b$

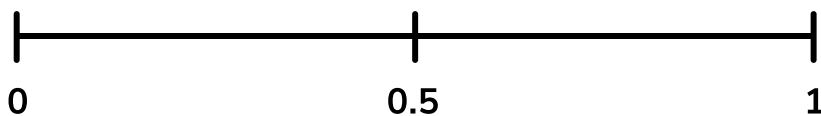
(Total for Question 3 is 1 mark)

4 Convert 0.4 to a fraction. Give your answer in its simplest form.

(Total for Question 4 is 2 marks)

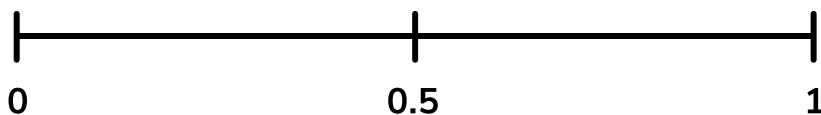
5 James rolls a fair dice.

(a) On the probability scale, mark with an X the probability that James rolls an even number.



(1)

(b) On the probability scale, mark with an X the probability that James rolls a 7.



(1)

(Total for Question 5 is 2 marks)

6 Thais invites 40 people to a party.

(a) $\frac{2}{5}$ of those invited to the party are children. How many children are invited to the party?

(2)

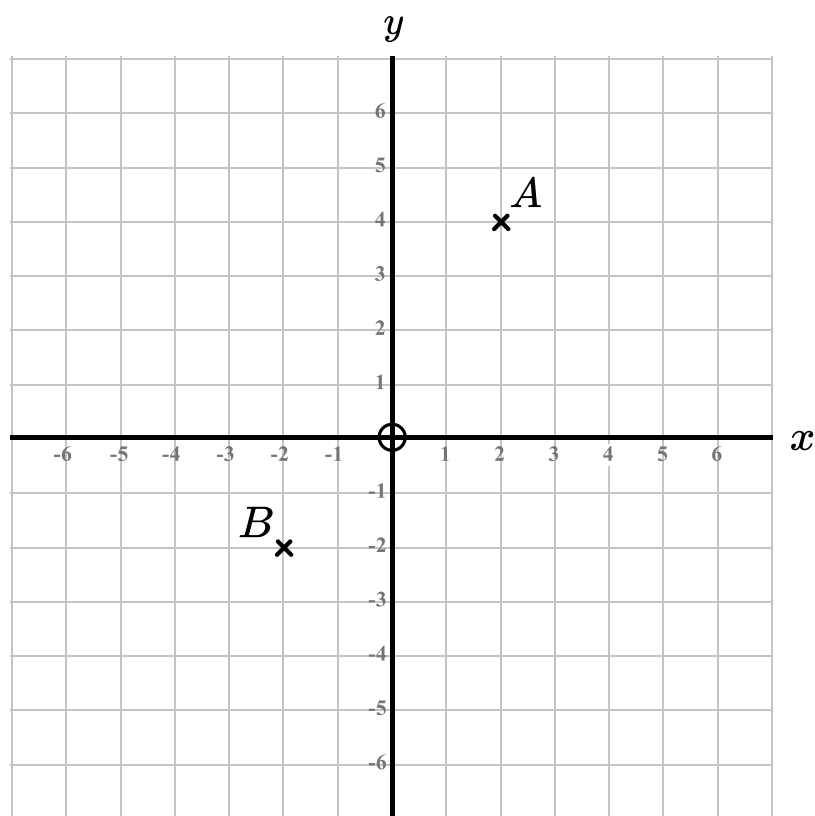
(b) 70% of those invited attend the party.

How many people attend the party?

(2)

(Total for Question 6 is 4 marks)

7



(a) Write down the coordinates of point A

(1)

(b) Point C has coordinates $(-3, 5)$. Mark point C on the grid.

(1)

(c) Point D is the midpoint of the line AB.

Write down the coordinates of the point D.

(2)

(Total for Question 7 is 4 marks)

8 Jenny has the following number cards:



Place four of the numbers to make this statement correct:

$$\square + \square \times \square - \square = 15$$

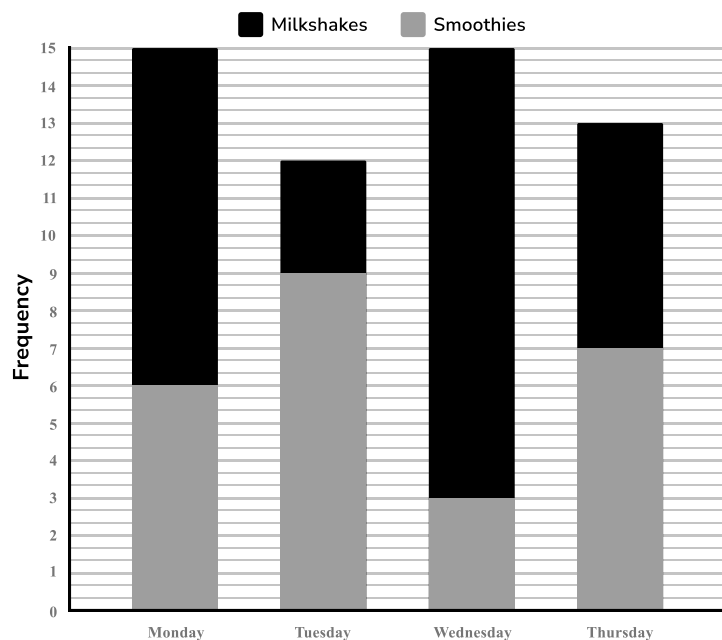
(Total for Question 8 is 2 marks)

- 9 A scale drawing has a scale of 1:50.
The length of a house on the drawing is 21 cm.
What is the real life length of the house?
Give your answer in metres.

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

10 This bar chart shows the drinks sold in a cafe over 4 days.

Drinks Sold



(a) On which day were the most smoothies sold?

(1)

(b) Were more smoothies or milkshakes sold in total over the 4 days?
Show how you decide.

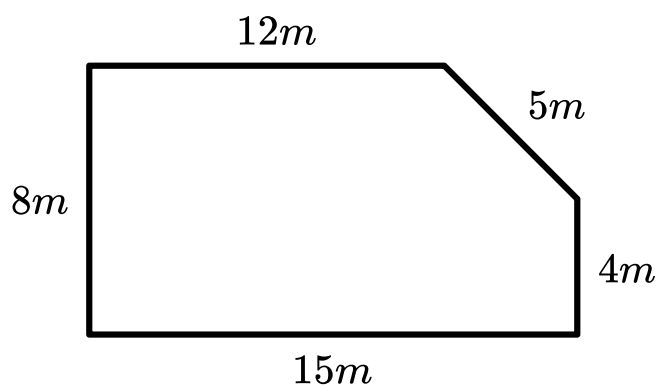
(3)

(c) What fraction of the milkshakes were sold on Monday?

(2)

(Total for Question 10 is 6 marks)

11 Here is a diagram of Deb's garden.



(a) Work out the perimeter of Deb's garden.

----- m
(1)

(b) Deb wants to put up a fence around her garden.

The fence costs £3 per metre.

The fencing company charges £200 to install the fence.

What is the total cost of the fence for Deb's garden?

£ -----
(3)

(c) Deb has a total budget of £400. She is going to spend the remainder of her budget on fruit trees which cost £12 each. How many fruit trees will Deb be able to buy?

(2)

(Total for Question 11 is 6 marks)

12 Solve the inequality $2x + 7 \leq 13$

(Total for Question 12 is 2 marks)

13 The amount of money earned by Mick is proportional to the amount of hours he works.

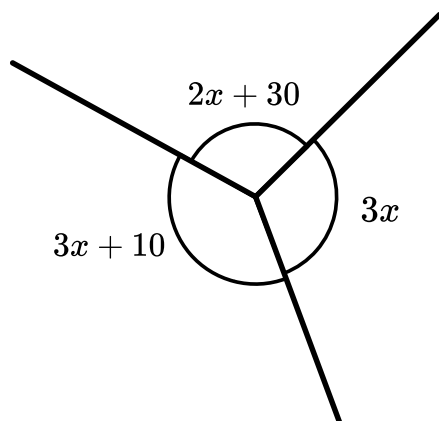
When Mick worked 8 hours he earned £120.

How much would Mick earn if he worked 10 hours?

£ -----

(Total for Question 13 is 2 marks)

14



Work out the value of x .

(Total for Question 14 is 3 marks)

15 Cath cycles 3km. It takes her 10 minutes. Cath wants to know her average speed in metres per second.

(a) How long did the journey take Cath in seconds?

----- seconds

(1)

(b) Work out Cath's speed in metres per second.

----- m/s

(2)

(Total for Question 15 is 3 marks)

16 80 children are asked their favourite type of pet. The results are shown in this table:

Animal	Frequency
Dog	27
Cat	23
Rabbit	16
Hamster	14

One child is chosen at random. What is the probability that the child's favourite type of pet is the mode?

(Total for Question 16 is 3 marks)

17 Factorise $x^2 - 3x - 28$

(Total for Question 17 is 2 marks)

18 (a) Karam and Marwa share £40 in the ratio 2:3.

Marwa gives £12 to Emily.

Write down the new ratio of Karam's money:Marwa's money.

Give your answer in its simplest form.

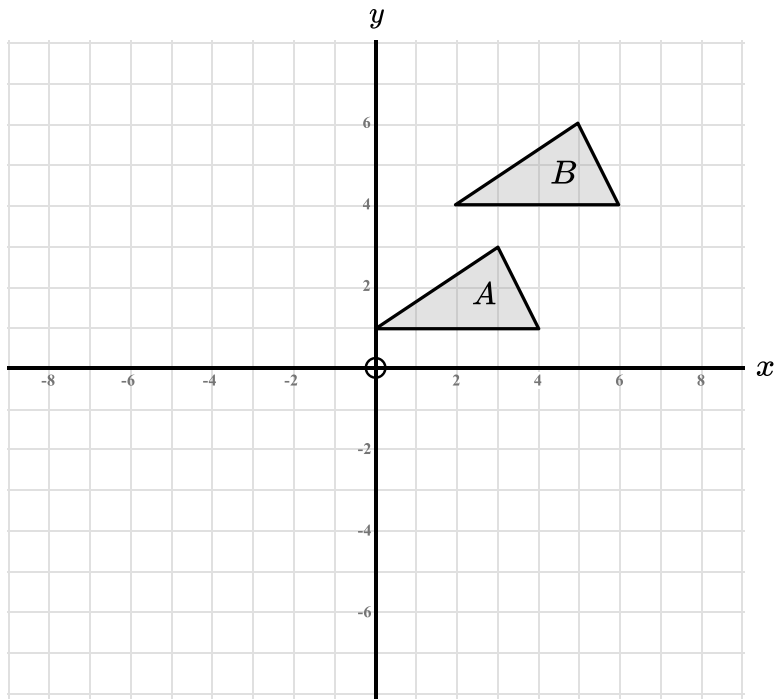
(3)

(b) What percentage of the money does Emily have?

(2)

(Total for Question 18 is 5 marks)

19



(a) A transformation is applied to shape A. The image is shape B.

Ann says

‘Shape A has been translated by the vector $\begin{pmatrix} 3 \\ 1 \end{pmatrix}$.’

Is Ann correct? Explain your answer.

(2)

(b) Rotate shape B 90° clockwise about the origin.

(2)

(Total for Question 19 is 4 marks)

20 (a) Simplify $a^3 \times a^5$

(1)

(b) Simplify $\frac{b^7}{b}$

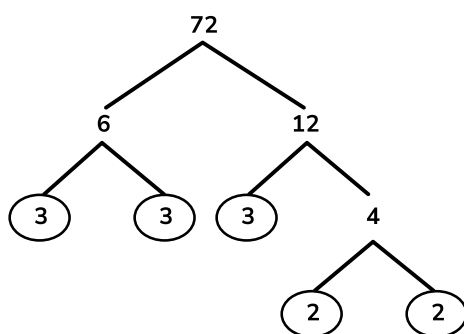
(1)

(c) Simplify $(3c^2)^4$

(2)

(Total for Question 20 is 4 marks)

21 Ben wants to write 72 as a product of its prime factors. He draws a prime factor tree:



(a) What mistake has Ben made?

(1)

(b) Write the correct answer in index form.

(1)

(Total for Question 21 is 2 marks)

- 22 (a) Katrina is baking a cake. For the sponge she needs $1\frac{1}{2}$ cups of butter and for the butter icing she needs $\frac{1}{3}$ cup of butter. How much butter does Katrina need in total for her cake?

(2)

- (b) Katrina's recipe will serve 12 people. Katrina needs to make enough cake to serve 30 people. How much butter will Katrin need? Give your answer as a mixed number.

(3)

(Total for Question 22 is 5 marks)

- 23 A travel company recorded the holiday duration of a random sample of 80 customers.

Holiday duration	Frequency
1 - 3 nights	17
4 - 6 nights	28
7 - 9 night	23
10+ nights	12

- (a) Over the summer, the travel company had 7200 customers.

Any customer who booked a holiday of 10 nights or longer received a discount of 10%.

Estimate the number of customers who received this discount over the summer.

(3)

- (b) Explain why this is only an estimate.

(1)

(Total for Question 23 is 4 marks)

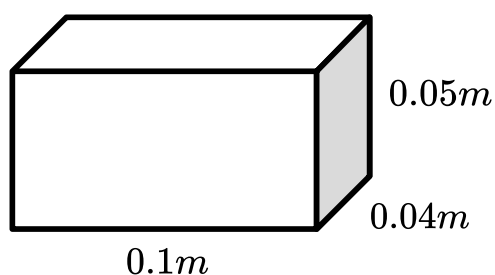
- 24 In a school the ratio of male teachers:female teachers is 1:4.
30% of the male teachers are maths teachers.
10% of the female teachers are maths teachers.

Show that the ratio of maths teachers:other teachers is 7:43.

(Total for Question 24 is 5 marks)

- 25 For this question you may use $Pressure = \frac{Force}{Area}$.

Here is a box.



- (a) Calculate the area of the base of the box.

 m^2

(2)

- (b) The box is on a table. The pressure on the table is $8000N/m^2$.

Work out the value of the force exerted on the table.

N

(3)

(Total for Question 25 is 5 marks)

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