

Write your name here:

Surname:	Other Names:
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# Mathematics

## Practice Papers Set 2

### Paper 2 (Calculator)

### Foundation Tier

## Time: 1 hour 30 minutes

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser

#### 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.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out**.

#### 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.

**Answer ALL TWENTY questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

- 1** One day, Robin recorded the number of people getting on his bus at each of six stops.  
Here are his results.

14          4          8          11          12          10

From these numbers, write down

(i) the odd number

.....

(ii) the multiple of 3

.....

(iii) the square number

.....

(iv) the factor of 30

.....

**(Total for Question 1 is 4 marks)**

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**2**



(i) What percentage of this shape is shaded?

..... %

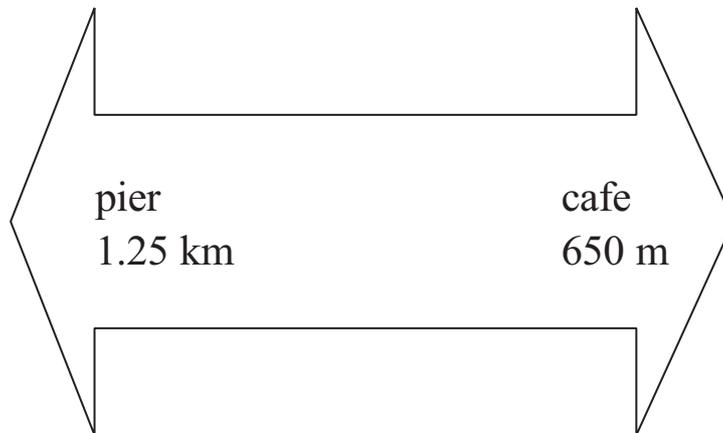
(ii) Write your answer to part (i) as a decimal.

.....

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

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- 3 John is walking along a path.  
He sees this sign.



How far is it from the pier to the cafe along the path?

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

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4 Brian makes egg cups.

He makes 12 egg cups per hour.

Brian makes egg cups for  $4\frac{1}{2}$  hours each day, on 5 days of the week.

The egg cups are packed in boxes.

8 egg cups are packed into each box.

How many boxes are needed for all the egg cups Brian makes in 5 days?

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

**5** A film starts at 17 50  
The film ends at 19 30

(a) How long does the film last?

.....  
(2)

Jackie buys some tickets to see the film.  
Each ticket costs £4.50  
Jackie pays with two £20 notes.

Jackie gets £8.50 change.

(b) How many tickets did Jackie buy?

.....  
(3)

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

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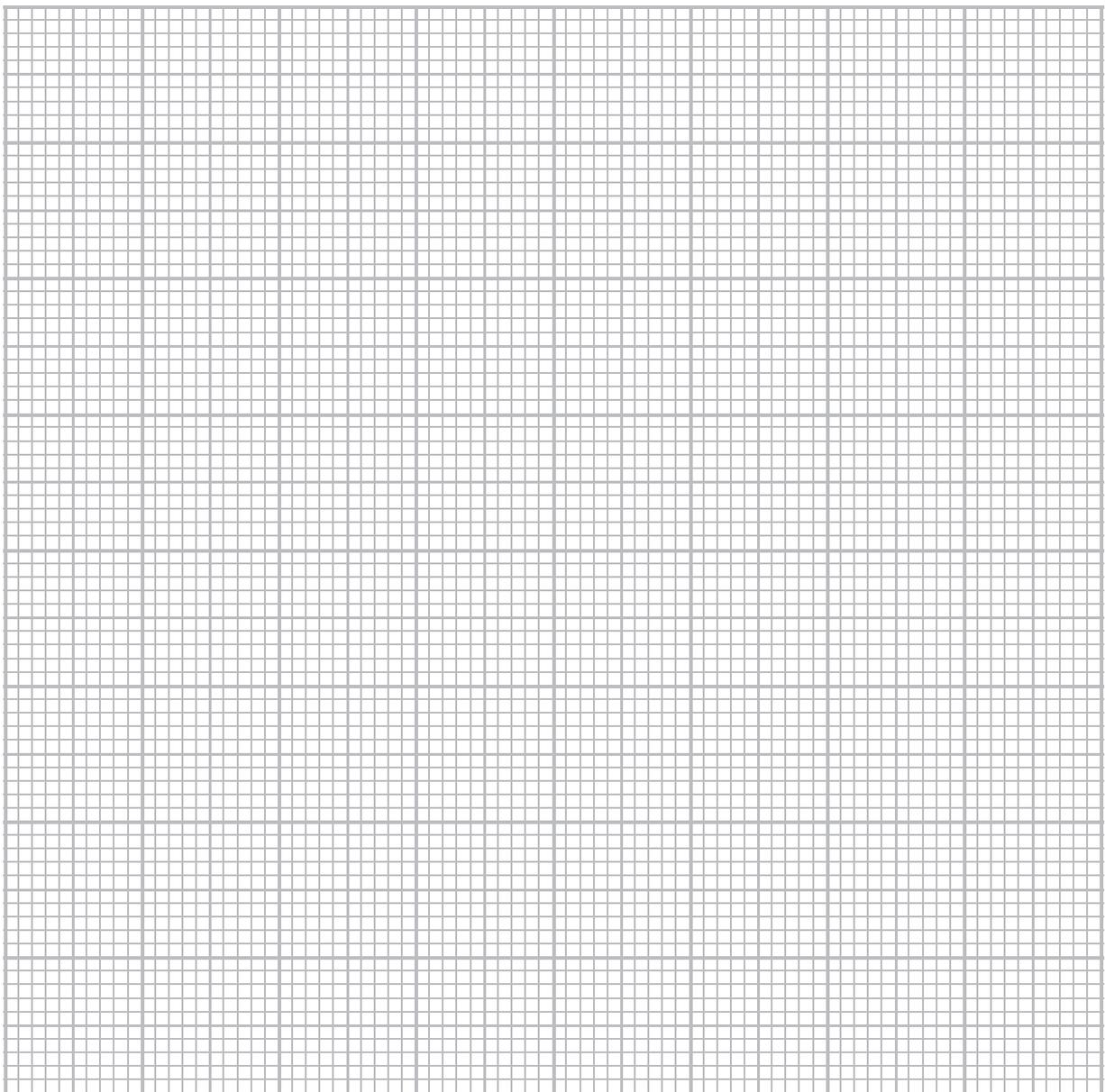
- 6 Lev counts the number of bicycles and the number of motorbikes he sees on each of five mornings.

The table shows his results.

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>Bicycles</b>	10	12	12	13	8
<b>Motorbikes</b>	5	4	7	2	6

Lev wants to compare this information.

On the grid, draw a suitable chart or diagram.



**(Total for Question 6 is 4 marks)**

7 The table shows the temperatures at 2 pm in five French ski resorts.

Ski resort	Temperature ( $^{\circ}\text{C}$ )
Alpe d'Huez	- 5
Risoul	- 2
Tignes	- 8
Meribel	3
Chamonix	- 1

(a) Which ski resort had the highest temperature?

.....  
(1)

(b) Work out the difference in temperature between Alpe d'Huez and the ski resort with the lowest temperature.

.....  $^{\circ}\text{C}$   
(2)

By midnight, the temperature in Risoul had fallen by  $14^{\circ}\text{C}$ .

(c) (i) Work out the temperature in Risoul at midnight.

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

(ii) Work out the length of time between 2 pm and midnight.

..... hours  
(3)

**(Total for Question 7 is 6 marks)**

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8 Budget Taxis use this rule to work out the cost, in euros (€), for taxi journeys.

3 euros  
plus  
2 euros for each kilometre travelled

(a) Claude travelled 4 kilometres in a Budget Taxi.  
What was the cost of Claude's journey?

€ .....  
(2)

(b) Bridgette travelled in a Budget Taxi.  
The cost was 35 euros.  
How many kilometres did Bridgette travel?

..... km  
(2)

Economy Taxis use this rule to work out their cost, in euros (€), for taxi journeys.

8 euros  
plus  
1 euro for each kilometre travelled

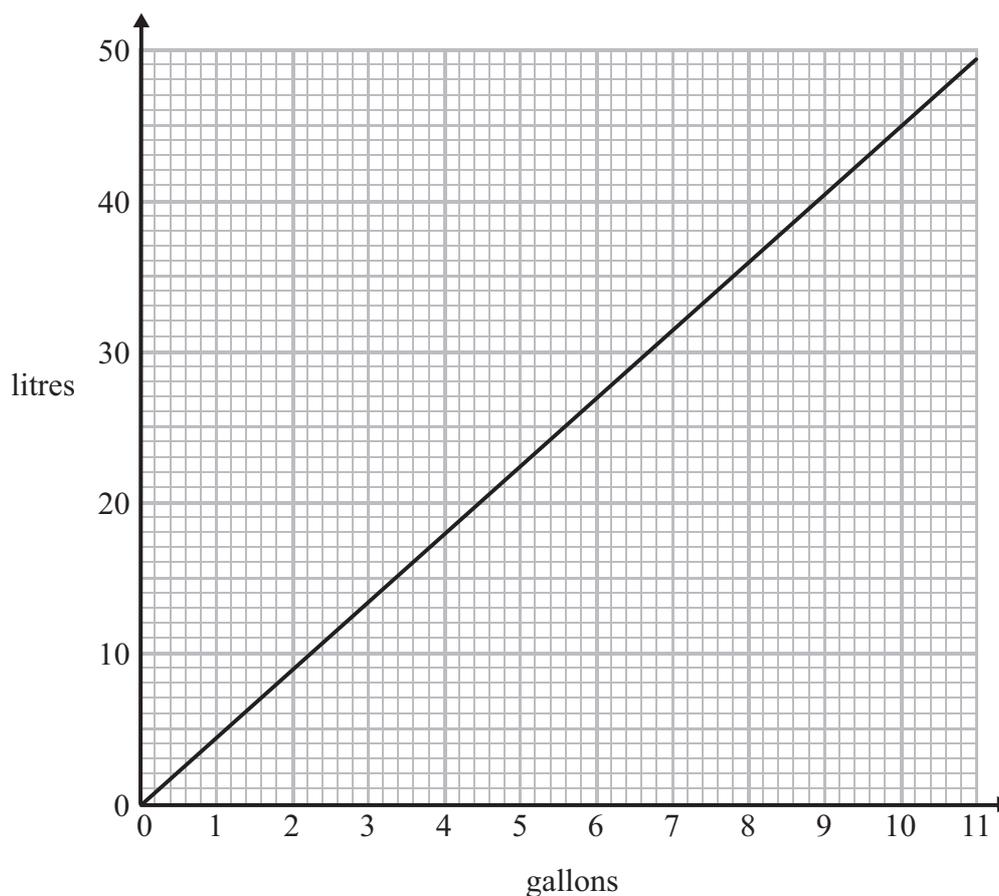
(c) Find the distance, in kilometres, for which the cost of a journey in a Budget Taxi is the same as the cost of a journey in an Economy Taxi.

..... km  
(2)

**(Total for Question 8 is 6 marks)**

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9 You can use this graph to change between gallons and litres.

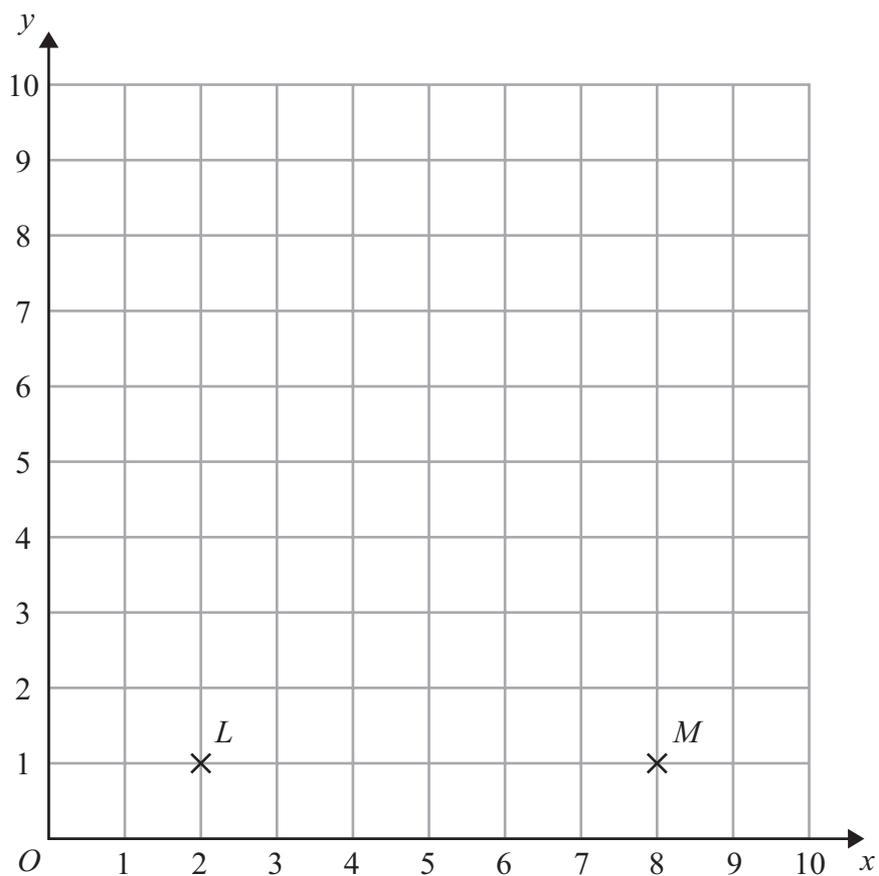


There are 80 litres of petrol in the petrol tank of car A.  
There are 16 gallons of petrol in the petrol tank of car B.

Which car has the most petrol in its petrol tank?  
You must show all your working.

.....  
(Total for Question 9 is 3 marks)

10 Here is a coordinate grid.



(a) Write down the coordinates of the point  $M$ .

(....., .....) (1)

$LM$  is the shortest side of an isosceles triangle.

(b) Mark with a cross ( $\times$ ) a point  $N$ , so that  $LMN$  is an isosceles triangle.

(2)

**(Total for Question 10 is 3 marks)**

11 (a) Expand and simplify  $(2a - 3)(2a + 1)$

.....  
(2)

(b) Factorise  $9c^2d^2 - 24cd$

.....  
(2)

(c) Factorise  $100g^2 - 25h^2$

.....  
(2)

**(Total for Question 11 is 6 marks)**

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12 The table gives information about the temperature,  $T$  °C, at noon in a town for 50 days.

Temperature ( $T$ °C)	Frequency
$8 < T \leq 12$	6
$12 < T \leq 16$	8
$16 < T \leq 20$	13
$20 < T \leq 24$	21
$24 < T \leq 28$	2

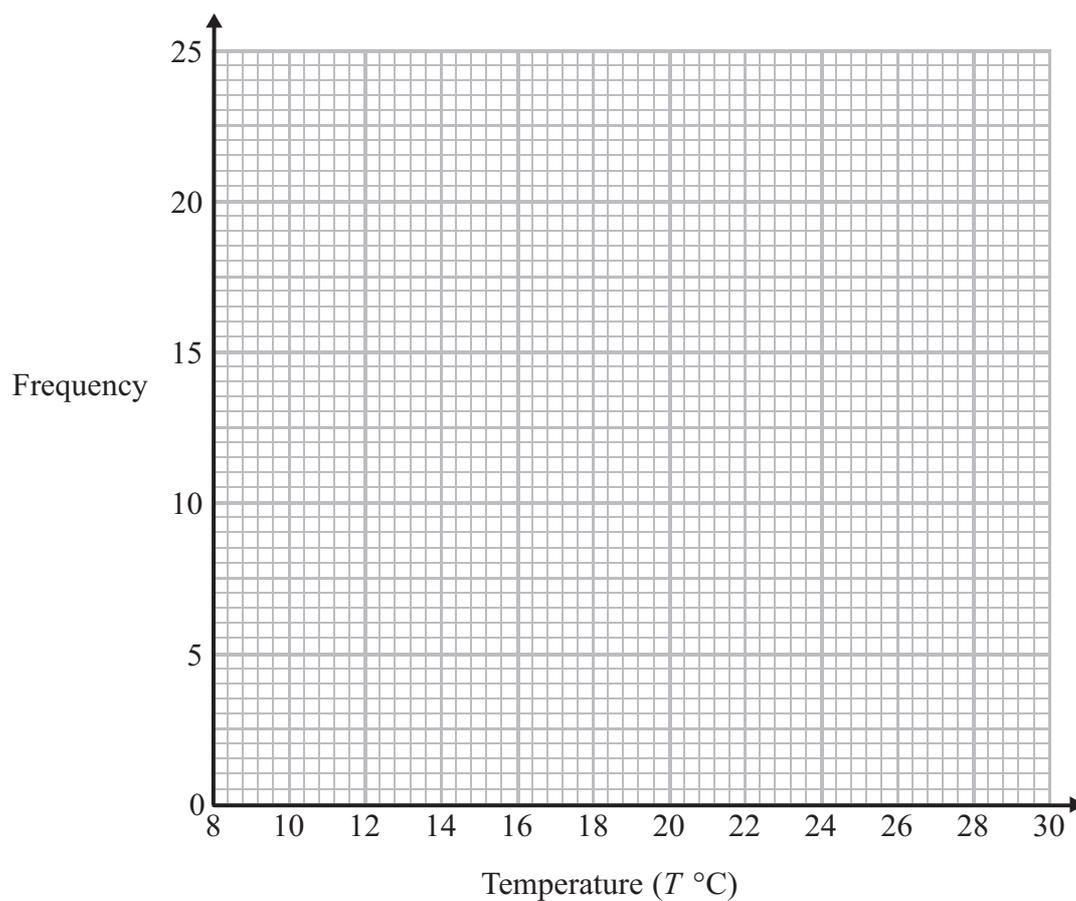
(a) Write down the modal class interval.

.....  
(1)

(b) Calculate an estimate for the mean temperature.

..... °C  
(4)

(c) Draw a frequency polygon for the information in the table.



(2)

(Total for Question 12 is 7 marks)

**13** There are 130 adults at a language school.  
Each adult studies one of French or Spanish or German.

96 of the adults are women.  
12 of the women study French.  
73 of the adults study Spanish.  
55 of the women study Spanish.  
9 of the men study German.

How many of the adults study French?

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

14 The same type of computer is sold in two shops.

**Computer World**

Beta computer

Normal price : £359

15% off normal price

**Logic**

Beta computer

Pay £110 now  
and pay 12 instalments  
of £16.80 per month

What is the difference in the cost of a Beta computer in Computer World and the cost of a Beta computer in Logic?

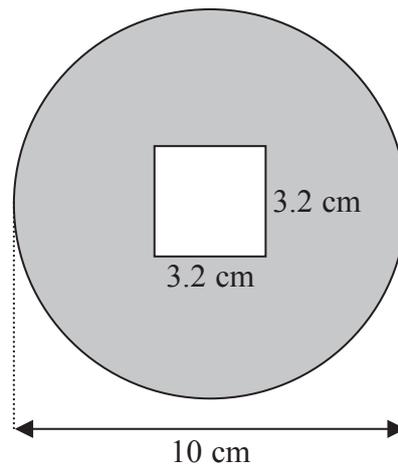
You must show all your working.

£ .....

**(Total for Question 14 is 4 marks)**

15 A square hole is cut from a circular piece of card.

Diagram **NOT**  
accurately drawn



The square has sides of length 3.2 cm.  
The diameter of the circular piece of card is 10 cm.

Work out the area of the shaded region.  
Give your answer correct to 3 significant figures.

..... cm<sup>2</sup>

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

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16 Express 825 as a product of its prime factors.

.....

**(Total for Question 16 is 3 marks)**

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17 A plane flew from Frankfurt to Hong Kong.  
The flight time was 10 hours 45 minutes.  
The average speed was 852 km/h.

Work out the distance the plane flew.

..... km

**(Total for Question 17 is 3 marks)**

18

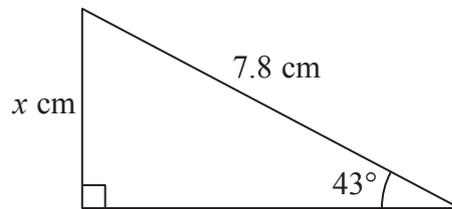


Diagram **NOT**  
accurately drawn

Work out the value of  $x$ .  
Give your answer correct to 3 significant figures.

$x =$  .....

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

**19** Ben goes on holiday to Hong Kong.

In Hong Kong, Ben sees a camera costing HK\$3179.55

In London, an identical camera costs £285

The exchange rate is £1 = HK\$12.30

Ben buys the camera in Hong Kong.

How much cheaper is the camera in Hong Kong than in London?

.....  
**(Total for Question 19 is 3 marks)**

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**20** In a sale normal prices are reduced by 20%.

A washing machine has a sale price of £464

By how much money is the normal price of the washing machine reduced?

£ .....

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**(Total for Question 20 is 3 marks)**