Write your name here:

Surname:	Other Names:

Mathematics
Practice Papers Set 1
Paper 1 (Non 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.
• **Calculators may not be used.**
• Diagrams are **NOT** accurately drawn, unless otherwise indicated.
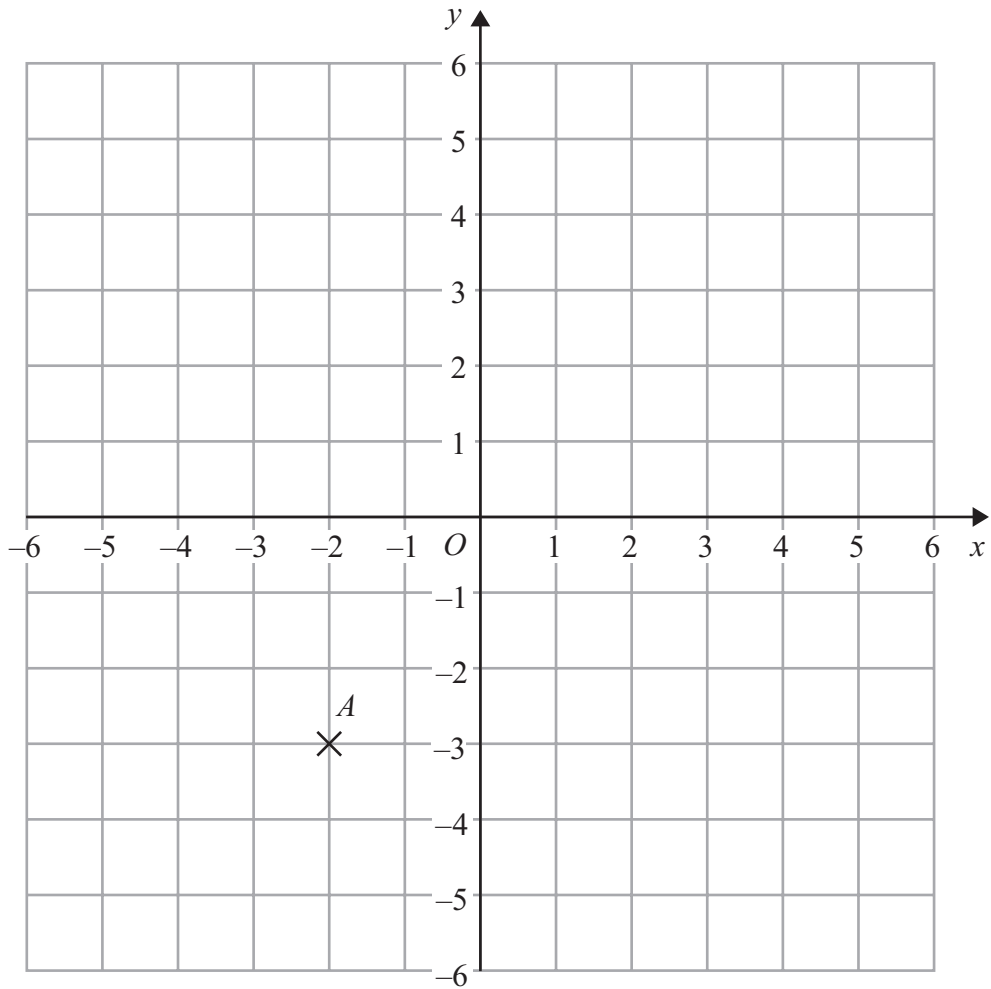• You must **show all your working out.**

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.

1

(a) (i) Write down the coordinates of the point *A*.

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

(ii) On the grid, mark with a cross (✗) the point with coordinates (5, 2).
Label this point *B*.

(2)

(b) On the grid, draw the line with equation *y* = 3

(1)

(Total for Question 1 is 3 marks)

2 Fareeda has four types of fruit

bananas
apples
pears
oranges

Fareeda is going to choose 2 different types of fruit.

Write down all the possible combinations of fruit she can choose.

....

....

....

....

(Total for Question 2 is 2 marks)

3 Here are the costs of pens in two shops.

Shop A	**Shop B**
3 pens for £2	5 pens for £3

Mrs Evans wants to buy 30 pens for the cheapest possible cost.
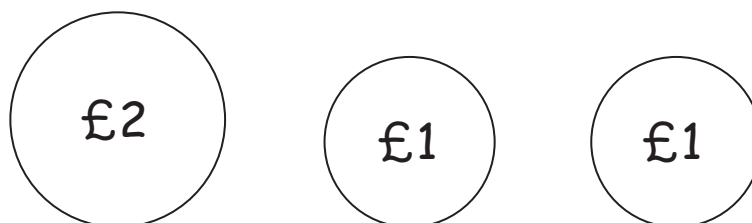
Which shop should she buy the pens from?
You must show all your working.

(Total for Question 3 is 4 marks)

4 An ice cream van has this price list.

Price List	
Choc Ice	£1.25
Tub	£1.15
Cone	85p

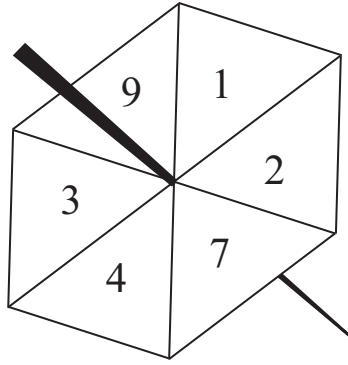Mitch only has these three coins.
He has no other money.

£2   £1   £1

Mitch wants to buy a choc ice, a tub and 2 cones.

Has Mitch got enough money?
You must show your working.

(**Total for Question 4 is 3 marks**)

5 Here is a fair 6-sided spinner.

Jake is going to spin the spinner once.

(a) Write down the probability that the spinner will land

    (i) on 4

....

    (ii) on a number greater than 10

....

(2)

Liz is going to spin the spinner 120 times.

(b) Work out an estimate for the number of times the spinner will land on 7

....

(2)

(Total for Question 5 is 4 marks)

6   One kilogram of cheese costs £5.60
Jane buys 200 g of cheese.

Work out how much Jane pays.

£...

(Total for Question 6 is 3 marks)

7 Ed has 4 cards.
There is a number on each card.

12	6	15	?

The mean of the 4 numbers on Ed's cards is 10

Work out the number on the 4th card.

....

(Total for Question 7 is 3 marks)

8 (a) Work out $2 \times (8 - 3)$

....
(1)

(b) Work out $3^2 + 4 \times 5$

....
(2)

(c) Find the value of 5^3

....
(1)

(d) Find the square root of 16

....
(1)

(Total for Question 8 is 5 marks)

9 A ticket for a seat at a school play costs £2.95

There are 21 rows of seats.
There are 39 seats in each row.

The school will sell all the tickets.

Work out an estimate for the total money the school will get.

£.......................................

(Total for Question 9 is 3 marks)

10 There are 40 people at a meeting.
Each person travelled to the meeting either by car or by train.

13 of the people are male.
10 females travelled by train.
8 males travelled by car.

Work out the total number of people who travelled by car.

....

(Total for Question 10 is 3 marks)

11 Mr Mason asks 240 Year 11 students what they want to do next year.

15% of the students want to go to college.

$\frac{3}{4}$ of the students want to stay at school.

The rest of the students do not know.
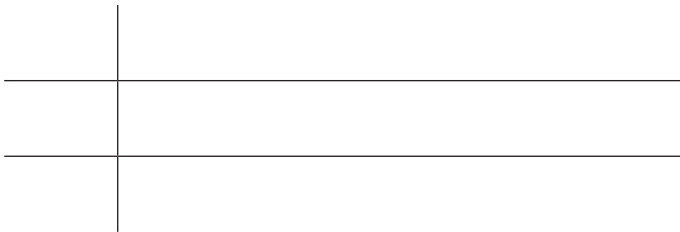
Work out the number of students who do not know.

....

(Total for Question 11 is 4 marks)

12 Sixteen babies are born in a hospital.

Here are the weights of the babies in kilograms.

$$2.4 \quad 2.7 \quad 3.5 \quad 4.4 \quad 4.5 \quad 4.1 \quad 4.4 \quad 2.8$$

$$4.1 \quad 3.8 \quad 3.8 \quad 4.2 \quad 3.3 \quad 3.0 \quad 3.7 \quad 3.3$$

Show this information in an ordered stem and leaf diagram.

Key:

(Total for Question 12 is 3 marks)

13 (a) Expand $3(2 + t)$

....

(1)

(b) Expand $3x(2x + 5)$

....

(2)

(c) Expand and simplify $(m + 3)(m + 10)$

....

(2)

(Total for Question 13 is 5 marks)

14 Margaret has some goats.

The goats produce an average total of 21.7 litres of milk per day for 280 days.

Margaret sells the milk in $\dfrac{1}{2}$ litre bottles.

Work out an estimate for the total number of bottles that Margaret will be able to fill with the milk.

....

(Total for Question 14 is 3 marks)

15 Matt and Dan cycle around a cycle track.

Each lap Matt cycles takes him 50 seconds.
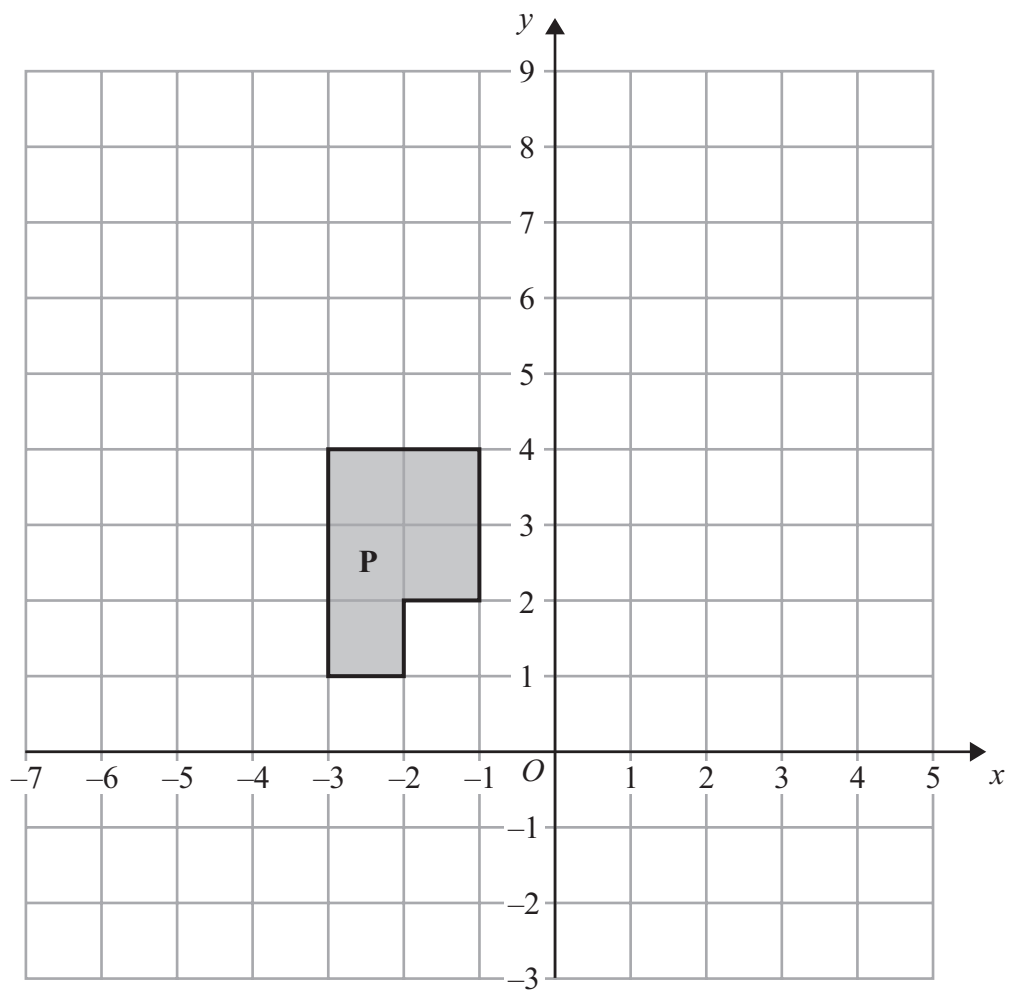Each lap Dan cycles takes him 80 seconds.

Dan and Matt start cycling at the same time at the start line.

Work out how many laps they will each have cycled when they are next at the start line together.

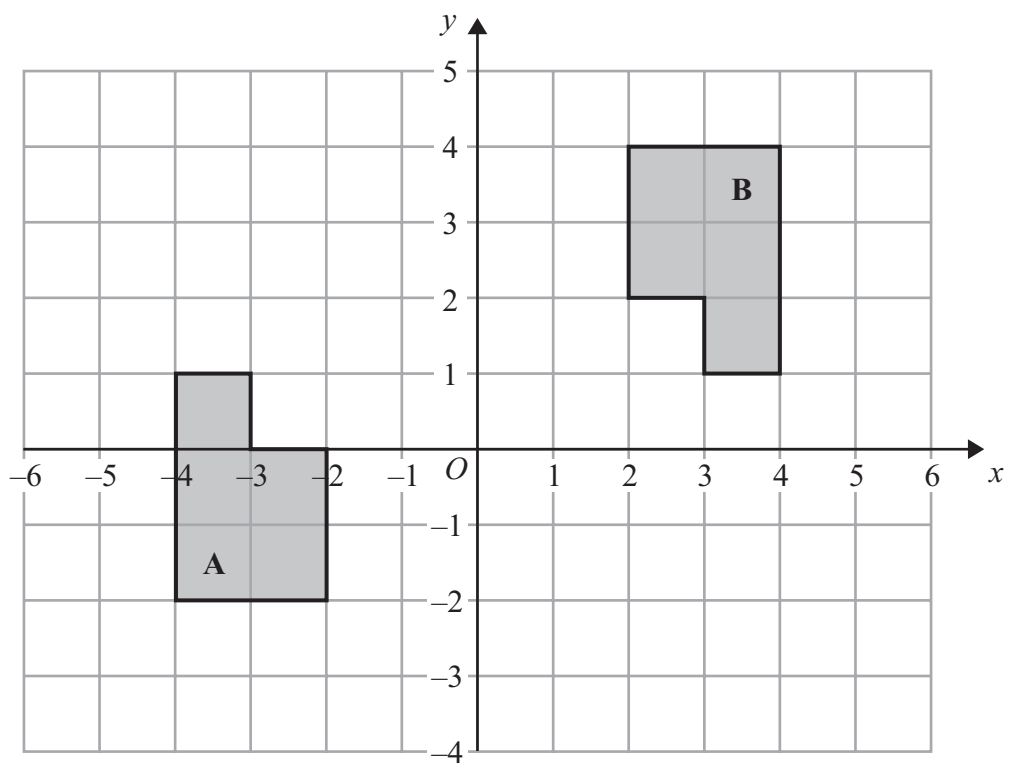Matt... laps

Dan... laps

(Total for Question 15 is 3 marks)

16

(a) Translate shape **P** by the vector $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$

(2)

(b) Describe fully the single transformation that maps shape **A** onto shape **B**.

....

....

(3)

(Total for Question 16 is 5 marks)

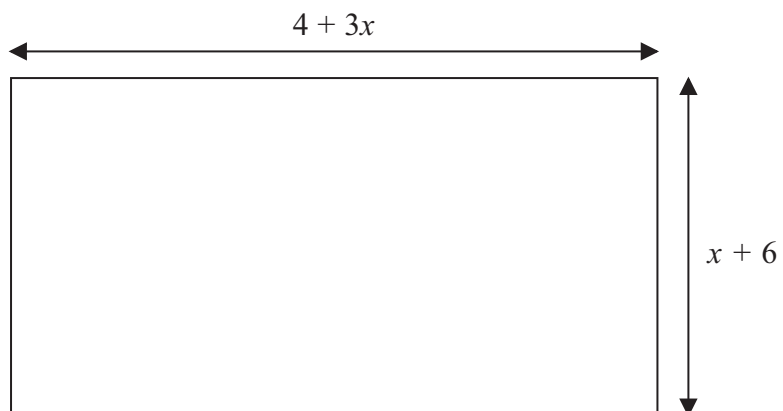**17** The diagram shows a garden in the shape of a rectangle.

$4 + 3x$

Diagram **NOT**
accurately drawn

$x + 6$

All measurements are in metres.
The perimeter of the garden is 32 metres.

Work out the value of x

....

(Total for Question 17 is 4 marks)

18 Debbie drove from Junction 12 to Junction 13 on a motorway.

The travel graph shows Debbie's journey.

Distance from
Junction 12
(kilometres)
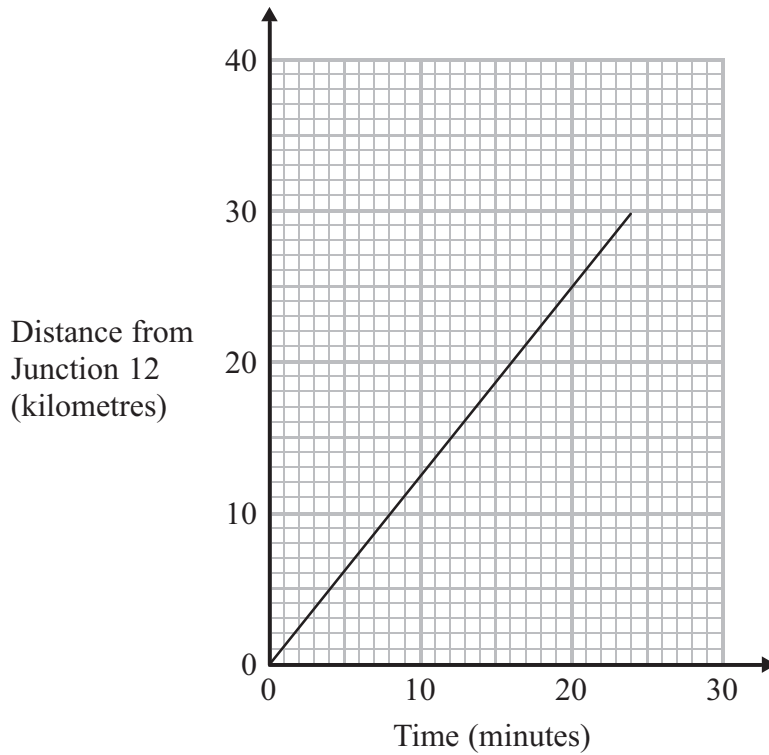
Ian also drove from Junction 12 to Junction 13 on the same motorway.
He drove at an average speed of 66 km/hour.

Who had the faster average speed, Debbie or Ian?
You must explain your answer.

(Total for Question 18 is 4 marks)

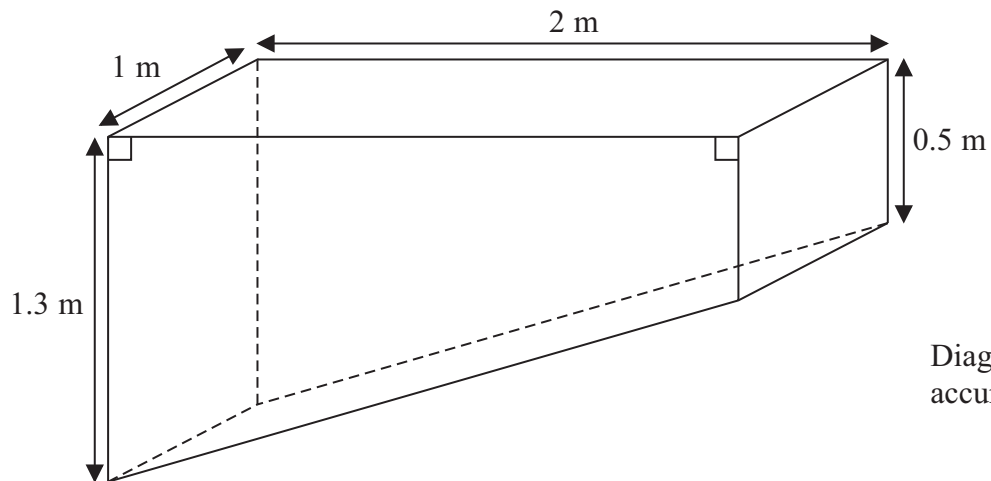**19** Sumeet has a pond in the shape of a prism.

2 m

1 m

0.5 m

1.3 m

Diagram **NOT**
accurately drawn

The pond is completely full of water.
Sumeet wants to empty the pond so he can clean it.
Sumeet uses a pump to empty the pond.

The volume of water in the pond decreases at a constant rate.
The level of the water in the pond goes down by 20 cm in the first 30 minutes.

Work out how much more time Sumeet has to wait for the pump to empty the pond
completely.

....

(Total for Question 19 is 6 marks)

20 Solve the simultaneous equations

$$4x + 7y = 1$$
$$3x + 10y = 15$$

$x =$ ....

$y =$ ....

(Total for Question 20 is 4 marks)

21 Write these numbers in order of size.
Start with the smallest number.

$$5^{-1} \qquad 0.5 \qquad -5 \qquad 5^0$$

....

(Total for Question 21 is 2 marks)

22 One sheet of paper is 9×10^{-3} cm thick.

Mark wants to put 500 sheets of paper into the paper tray of his printer.
The paper tray is 4 cm deep.

Is the paper tray deep enough for 500 sheets of paper?
You must explain your answer.

(Total for Question 22 is 3 marks)