Write your name here

Surname	Other names

Pearson Edexcel GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics A

Paper 2 (Calculator)

Foundation Tier

Thursday 8 June 2017 – Morning
Time: 1 hour 45 minutes

Paper Reference
1MA0/2F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

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 be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is 100
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed.

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.

Turn over ▶

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6/6/6/

P 5 3 4 4 1 A 0 1 2 8

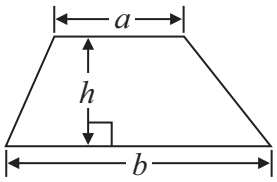
Pearson

GCSE Mathematics 1MA0

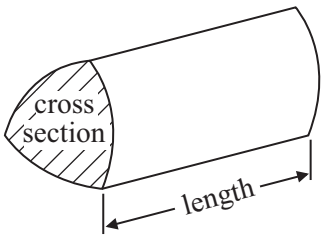
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section × length



Answer ALL questions.

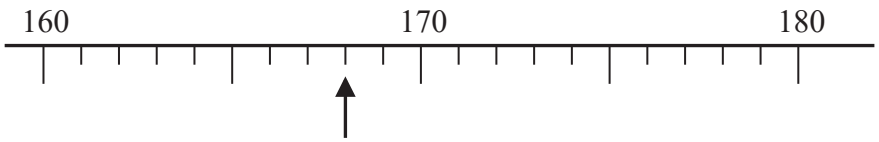
Write your answers in the spaces provided.

You must write down all stages in your working.

1 (a) Write the number 6458 correct to the nearest hundred.

.....

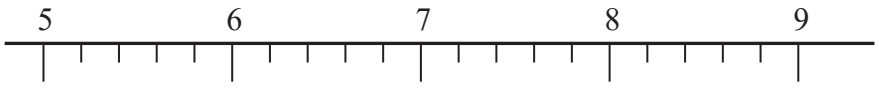
(1)



(b) Write down the number marked by the arrow.

.....

(1)

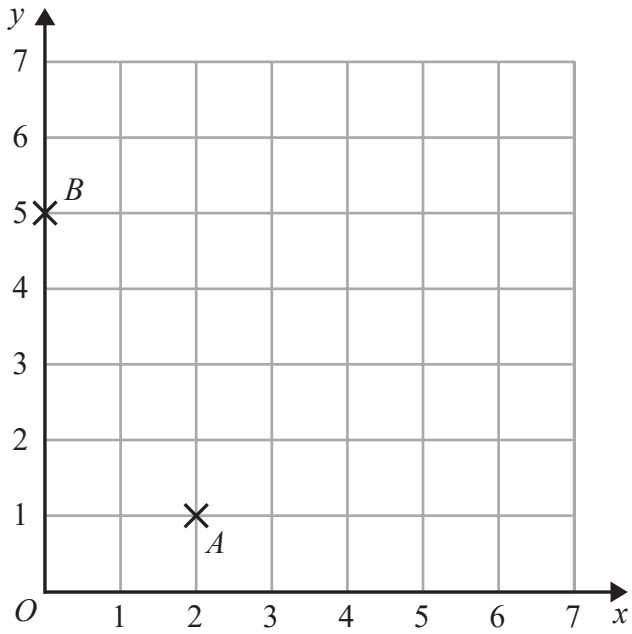


(c) Find the number 7.2 on the number line above.
Mark the number with an arrow (↑).

(1)

(Total for Question 1 is 3 marks)

2



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

(..... , ...)

(1)

(b) Write down the coordinates of the point B.

(..... , ...)

(1)

(c) Write down the coordinates of the midpoint of AB.

(..... , ...)

(1)

(d) On the grid, mark with a cross (×) a point C so that ABC is an isosceles triangle. Label this point C.

(1)

(Total for Question 2 is 4 marks)

3 The price of a calculator depends on the number of these calculators you buy.

The table gives information about the prices of this calculator.

Number of calculators	Price of each calculator
1–29	£3.85
30–99	£3.65
100 or more	£3.49

Mr Edwards wants to buy some of these calculators.
He has £200 to spend.

Work out the greatest number of calculators he can buy.

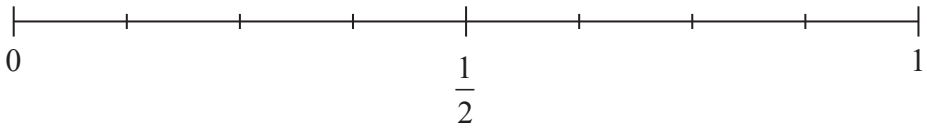
.....

(Total for Question 3 is 3 marks)

4 Luke has a fair 8-sided dice.
The dice is labelled 1, 2, 3, 4, 5, 6, 7 and 8

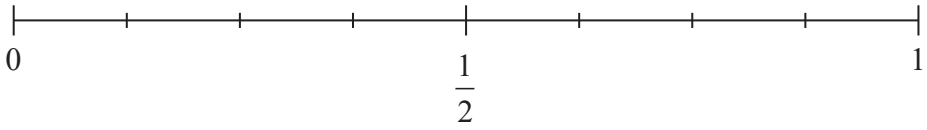
Luke rolls the dice once.

(a) On the probability scale below, mark with a cross (×) the probability that Luke gets an even number.



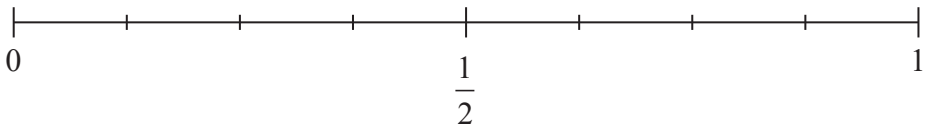
(1)

(b) On the probability scale below, mark with a cross (×) the probability that Luke gets a number less than 10



(1)

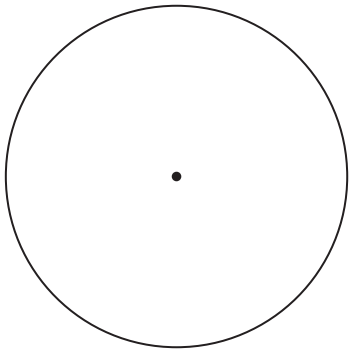
(c) On the probability scale below, mark with a cross (×) the probability that Luke gets a number greater than 6



(1)

(Total for Question 4 is 3 marks)

5 Here is a circle.

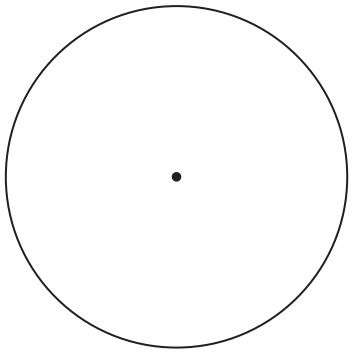


(a) Measure the diameter of the circle.

..... cm

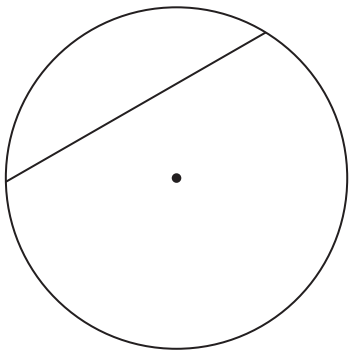
(1)

(b) In the circle below, draw a sector.
Shade your sector.



(1)

(c) Write down the mathematical name of the straight line shown in the diagram below.



.....

(1)

(Total for Question 5 is 3 marks)

6 Here is a menu.

Starter	Main course	Dessert
Soup Melon	Pizza Lasagne Risotto	Fruit Cheesecake

Tina is going to choose one starter and **either** one main course or one dessert.

Write down all the possible combinations Tina can choose.

.....

.....

.....

(Total for Question 6 is 2 marks)

***7** A lift takes people to the top of a tower.
The lift stops only at the bottom of the tower and at the top of the tower.

The table below gives information about the times taken by the lift.

	Time taken
Waits at bottom of tower	1 minute
Goes up to top of tower	45 seconds
Waits at top of tower	1 minute
Goes down to bottom of tower	45 seconds

The lift can carry a maximum of 10 people.

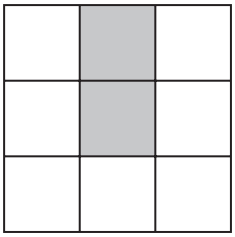
Liz says that in 1 hour the lift can carry more than 200 people to the top of the tower.

Is Liz correct?
You must show how you get your answer.

(Total for Question 7 is 4 marks)

8 On the grid below, two squares are shaded.

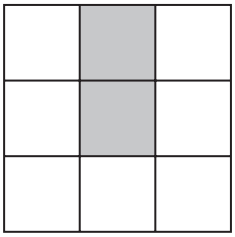
(a) Shade **three** more squares to make a shaded shape that has exactly one line of symmetry.



(1)

On the grid below, two squares are shaded.

(b) Shade **three** more squares to make a shaded shape that has rotational symmetry of order 2



(1)

(Total for Question 8 is 2 marks)

9 Ben hires some buses to take 768 people to a football match.
Each bus can take 56 people.

Ben hires the least number of buses needed to take all 768 people.

Then 19 of the 768 people decide **not** to go to the football match.

Does Ben still need all the buses he has hired?
You must show how you get your answer.

(Total for Question 9 is 3 marks)

***10** The table shows information about the number of students absent from a school last week.

	Mon	Tues	Wed	Thur	Fri
Year 7	16	14	17	21	26
Year 8	16	18	11	13	20

Simon wants to compare this information.

On the grid, draw a suitable diagram or chart Simon can use.

(Total for Question 10 is 4 marks)

11 Here is part of a train timetable from Cambridge to London Kings Cross.

Cambridge	08 15	08 50	09 20	09 27	09 50
Royston	08 29	09 05	09 35	09 44	10 05
Letchworth	08 39	09 14	09 44	09 55	10 14
London Kings Cross	09 10	09 45	10 13	10 32	10 43

Matt is going to catch a train from Cambridge.
He needs to get to Letchworth **before** 10 00

(a) Write down the time of the latest train Matt can catch from Cambridge.

.....

(1)

The 09 35 train left Royston on time.

The train took 50 minutes to travel from Royston to London Kings Cross.
The train was late when it got to London Kings Cross.

(b) How many minutes late?

..... minutes

(2)

(Total for Question 11 is 3 marks)

12 (a) Solve $2x = 24$

$x =$ .....

(1)

(b) Solve $\frac{y}{3} = 15$

$y =$ .....

(1)

Hassan thinks of a number.

He multiplies the number by 3
He then adds 12

His answer is 60

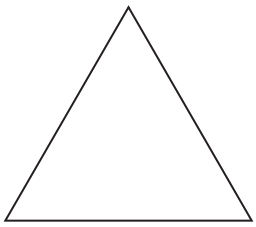
(c) What number did Hassan think of?

.....

(2)

(Total for Question 12 is 4 marks)

13 The diagram shows an equilateral triangle and a rectangle.



10 cm

11 cm

Diagram **NOT** accurately drawn

The perimeter of the equilateral triangle is the same as the perimeter of the rectangle.

The length of the rectangle is 11 cm.

Work out the width of the rectangle.

..... cm

(Total for Question 13 is 3 marks)

14 Here are the ages, in years, of 10 children.

4 9 6 7 3 5 2 6 4 6

(a) Find the mode.

..... years
(1)

(b) Work out the median.

..... years
(2)

(c) Work out the range.

..... years
(2)

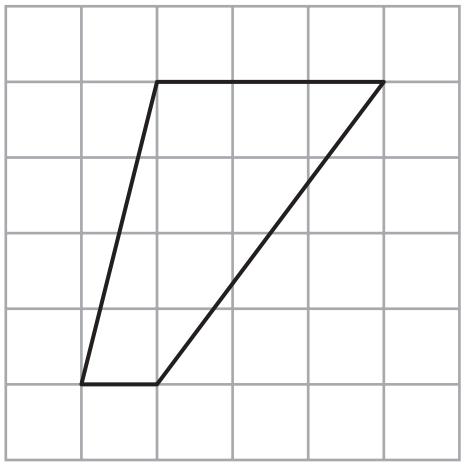
(Total for Question 14 is 5 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

15 A quadrilateral has been drawn on a centimetre grid.



(a) Write down the mathematical name of this quadrilateral.

.....

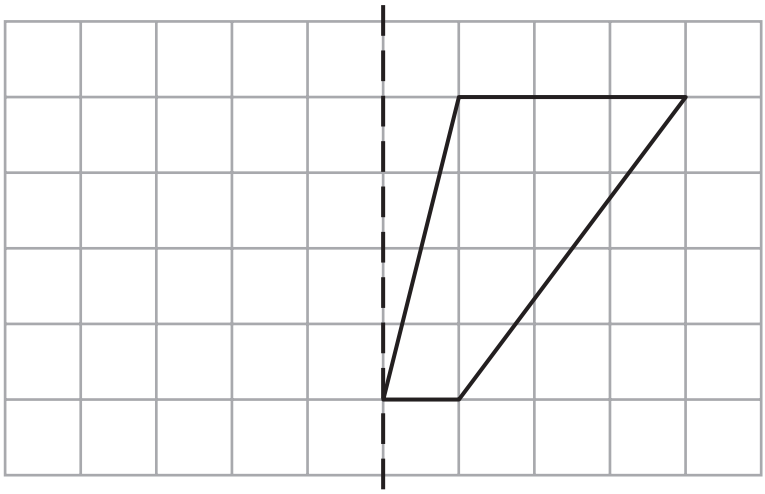
(1)

(b) Work out the area of the quadrilateral.

..... cm^2

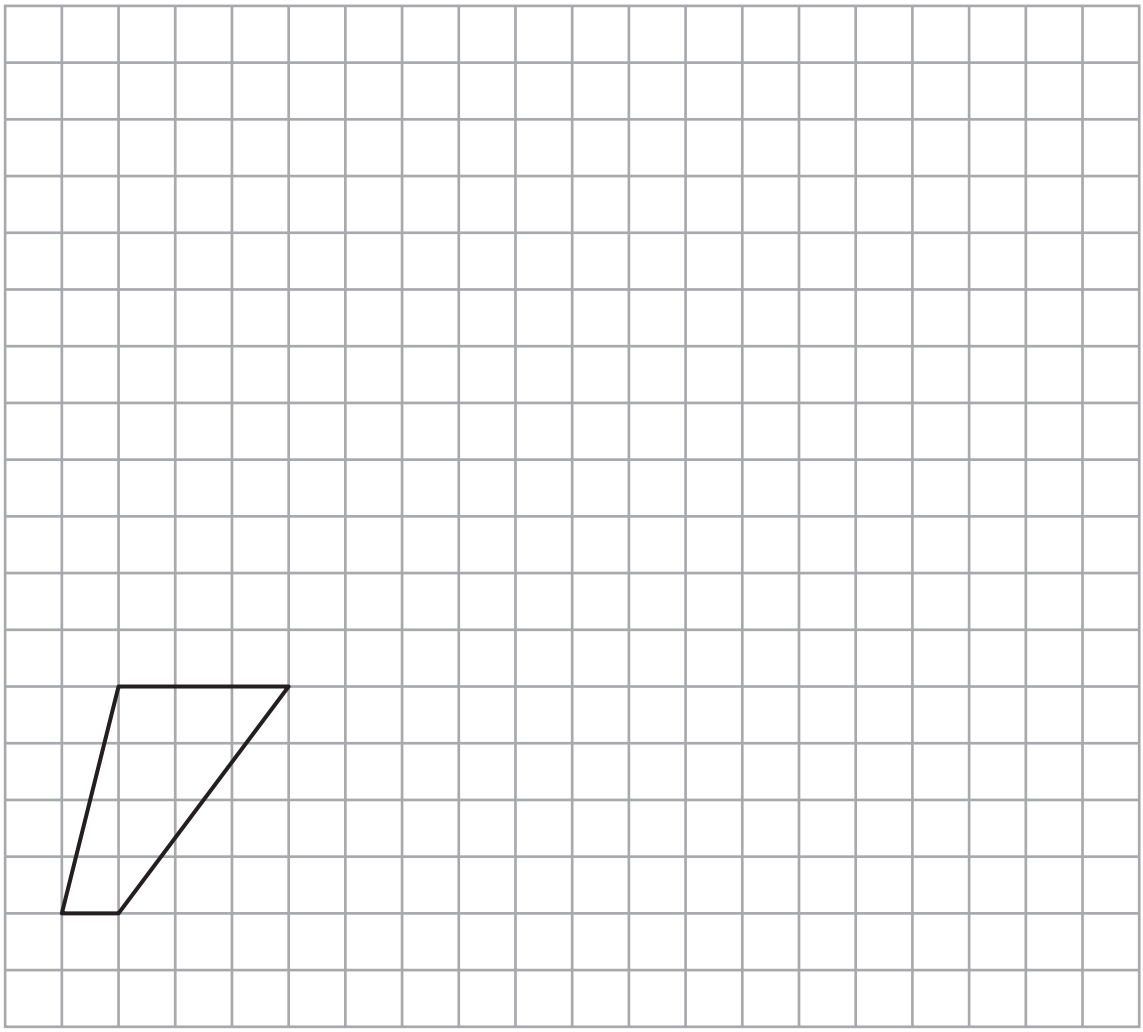
(2)

(c) On the grid below, reflect the quadrilateral in the mirror line.



mirror line

(2)



(d) On the grid, draw an enlargement of the quadrilateral with a scale factor of 3

(2)

(Total for Question 15 is 7 marks)

***16** This sign is on a bridge.

Low bridge
Maximum height of vehicle
4.4 metres

The height of a bus is 14 feet 4 inches.

12 inches = 1 foot
1 inch = 2.54 cm

Can the bus go under the bridge?
You must show how you get your answer.

(Total for Question 16 is 3 marks)

17 One kilogram of cheese costs £9.68
Chris buys 650 g of this cheese.

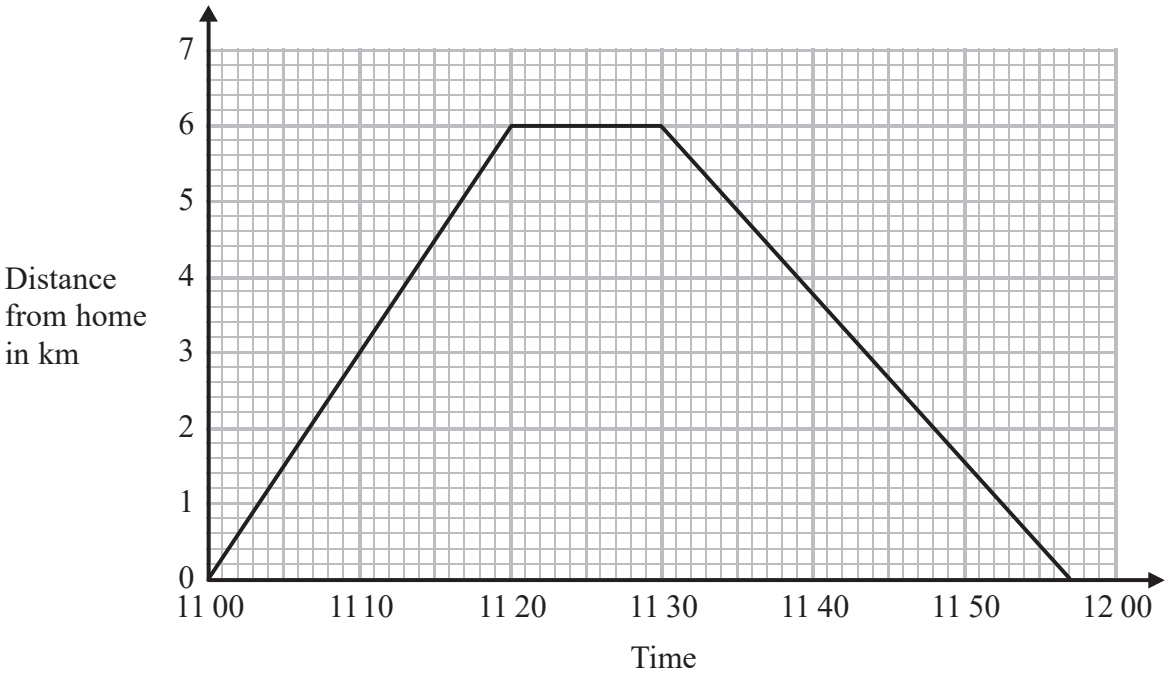
Work out how much Chris pays.

£.....

(Total for Question 17 is 3 marks)

18 Amina cycled from her home to a shop.
She then cycled home.

The travel graph shows information about Amina's journey.



At 11 20 Amina stopped to go into the shop.

(a) How many minutes did Amina stop for?

..... minutes
(1)

Amina took more time to cycle home from the shop than she took to cycle to the shop.

(b) How many minutes more?

..... minutes
(2)

(c) What was the total distance Amina cycled?

..... km
(1)

(Total for Question 18 is 4 marks)

***19**

Best vans	Vans for hire
$\frac{1}{3}$ off normal price of £87 for each day No charge for the miles	£44 for each day **plus** 15p for each extra mile over 250 miles

Scott wants to hire a van for 2 days.
He is going to drive 400 miles in the van.

Scott wants to pay the least possible money to hire the van.

Should Scott hire the van from Best vans or from Vans for hire?
You must show all your working.

(Total for Question 19 is 5 marks)

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

$\frac{3}{7}$ 41% 0.45 $\frac{2}{5}$ 0.405

.....

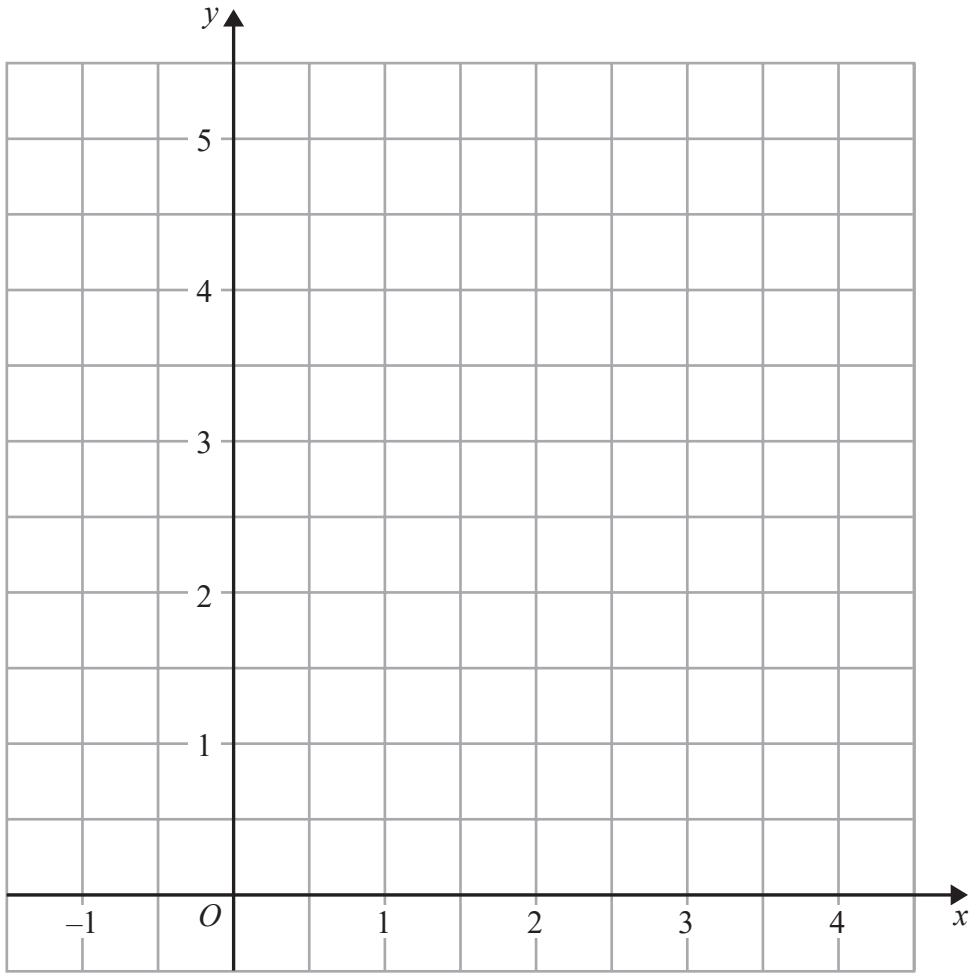
(Total for Question 20 is 2 marks)

21 (a) Complete the table of values for $x + y = 4$

x	–1	0	1	2	3	4
y			3			0

(2)

(b) On the grid, draw the graph of $x + y = 4$ for values of x from –1 to 4



(2)

(Total for Question 21 is 4 marks)

22 Anna wants to find out how often people travel by train.
She is going to use a questionnaire.

Design a suitable question for Anna to use on her questionnaire.

(Total for Question 22 is 2 marks)

23 30% of the people at a concert are female.
1295 of the people at the concert are male.

Work out the number of people at the concert who are female.

.....

(Total for Question 23 is 3 marks)

24 Identical pairs of boots are sold in London, in Geneva and in Paris.

These boots have a price of

£115 in London
189 Swiss francs in Geneva
174 euros in Paris

The exchange rates are

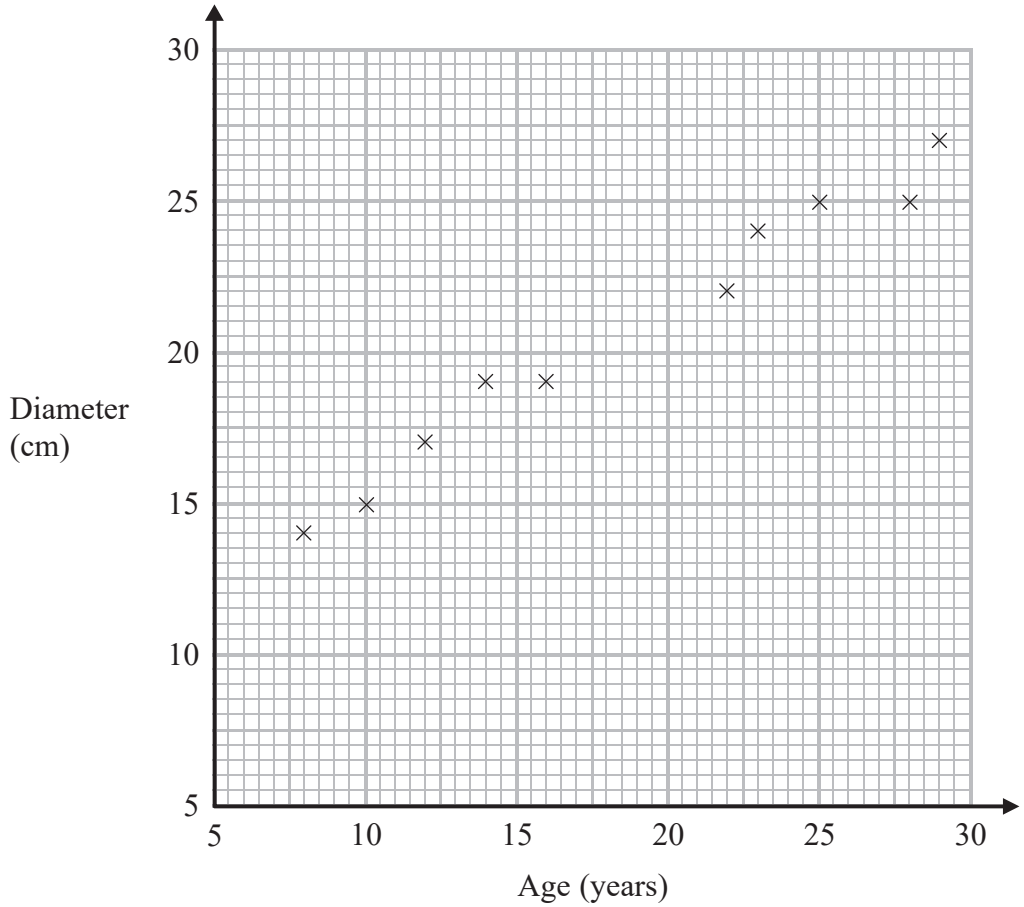
£1 = 1.39 Swiss francs
£1 = 1.27 euros

Are the boots the best value for money in London or in Geneva or in Paris?
You must show how you get your answer.

.....

(Total for Question 24 is 3 marks)

25 The scatter graph shows information about ten trees of the same type.
It shows the age and the diameter of the trunk of each tree.



(a) What type of correlation does this scatter graph show?

.....

(1)

Another tree of the same type has a trunk with diameter 21 cm.

(b) Estimate the age of this tree.

..... years

(2)

(Total for Question 25 is 3 marks)

26 George wants to watch all 23 games that a football team will play at home next season.

He can buy

a season ticket costing £425

or 23 separate tickets costing £24 each ticket.

What percentage of the total cost of 23 separate tickets does George save by buying a season ticket?

..... %

(Total for Question 26 is 3 marks)

27 *ABC* is a right-angled triangle.

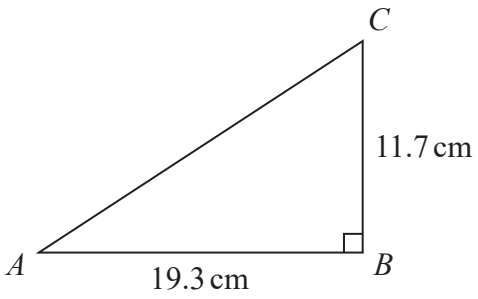


Diagram **NOT** accurately drawn

Calculate the length of *AC*.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 27 is 3 marks)

28 Gemma has the same number of sweets as Betty.

Gemma gives 24 of her sweets to Betty.
Betty now has 5 times as many sweets as Gemma.

Work out the total number of sweets that Gemma and Betty have.

.....

(Total for Question 28 is 4 marks)

***29** The diagram shows a plan of Brian's lawn.

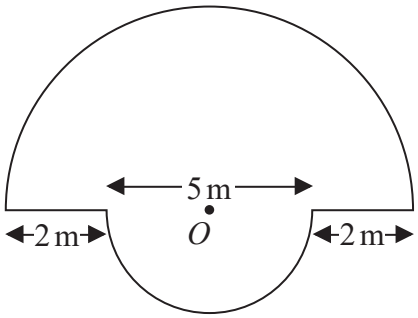


Diagram **NOT** accurately drawn

The edge of the lawn consists of two semicircles and two straight lines.
Each semicircle has centre O.
The diameters of the semicircles are 9 m and 5 m.

Brian is going to put lawn edging around the edge of the lawn.
Lawn edging is sold in 2.4 metre rolls.

Brian has £35

Has Brian got enough money to buy all the rolls of lawn edging he needs?
You must show all your working.

Lawn edging

£3.99 per roll
or
3 rolls for £10

(Total for Question 29 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS