Write your name here

Surname	Other names

Pearson Edexcel GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics A

Paper 1 (Non-Calculator)

Foundation Tier

Thursday 4 June 2015 – Morning
Time: 1 hour 45 minutes

Paper Reference
1MA0/1F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. 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 must not be used.**

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 ▶

P45869A

6/6/6/6/6/8/

P 4 5 8 6 9 A 0 1 2 8

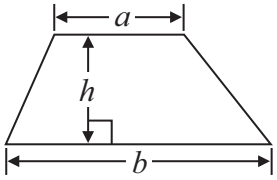
PEARSON

GCSE Mathematics 1MA0

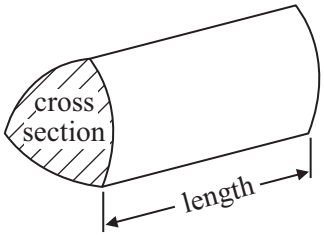
Formulae: Foundation Tier

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



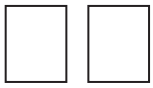
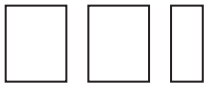
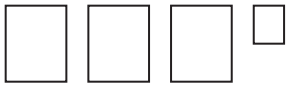
Answer ALL questions.

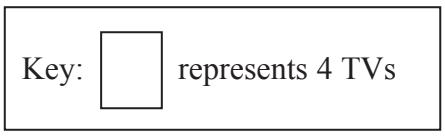
Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1 Here is a pictogram.
It shows the number of TVs sold in a shop on Thursday, on Friday and on Saturday.

Thursday	
Friday	
Saturday	
Sunday	



On Sunday the shop sold 6 TVs.

(a) Use this information to complete the pictogram.

(1)

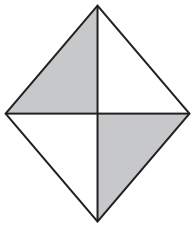
(b) Work out the total number of TVs sold on these four days.

.....

(2)

(Total for Question 1 is 3 marks)

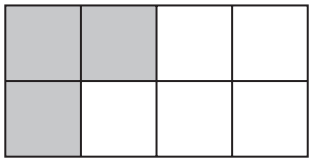
2 (a) Write down the percentage of this shape that is shaded.



..... %

(1)

(b) Write down the fraction of this shape that is shaded.



.....

(1)

(c) Shade $\frac{1}{5}$ of this shape.

(1)

Here are some fractions.

$$\frac{3}{10} \qquad \frac{2}{8} \qquad \frac{4}{12} \qquad \frac{12}{40} \qquad \frac{5}{20}$$

Two of these fractions are equivalent to $\frac{1}{4}$

(d) Which two fractions?

..... and .....

(2)

(Total for Question 2 is 5 marks)

3 Here is a thermometer.

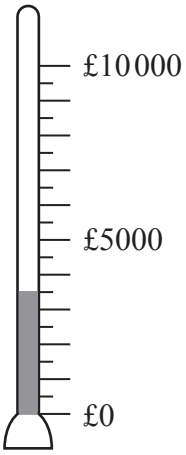
(a) Write down the temperature shown on the thermometer.

..... °C

(1)

A Youth Club is collecting money for charity.

The scale below shows how much money the Youth Club has collected.



(b) How much more money does the Youth Club need to collect to get a total of £10000?

£ .....

(2)

(Total for Question 3 is 3 marks)

4 The table gives some information about four cars.

Car	Price (£)	Length (mm)	Top speed (mph)	Engine size (cc)
Ficus	19 195	2650	120	999
Hind	18 995	2650	116	1582
Avris	20 535	2600	110	1798
Gulf	19 120	2580	121	1390

(a) Which of the four cars has the least length?

.....

(1)

(b) Which car has a price greater than £19 000 **and** a top speed of less than 120 mph?

.....

(1)

The price of the Ficus is £19 195

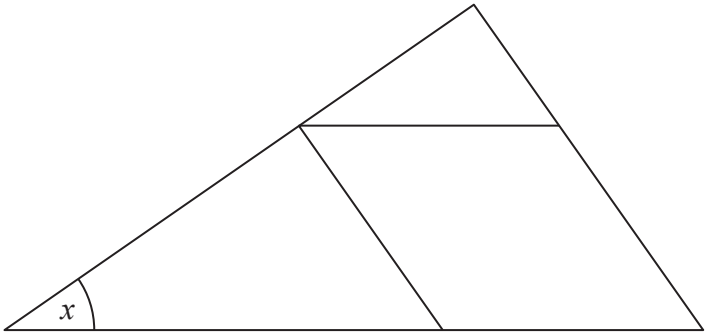
(c) Write 19 195 correct to the nearest 100

.....

(1)

(Total for Question 4 is 3 marks)

5



(a) On the diagram, mark with arrows (>>) a pair of parallel lines.

(1)

(b) On the diagram, mark with the letter R a right angle.

(1)

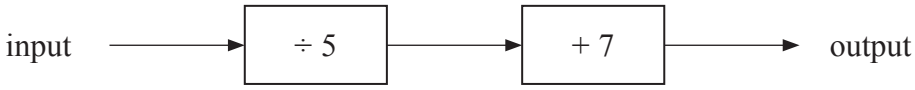
(c) Measure the size of the angle marked x.

.....°

(1)

(Total for Question 5 is 3 marks)

6 Here is a two-stage number machine.

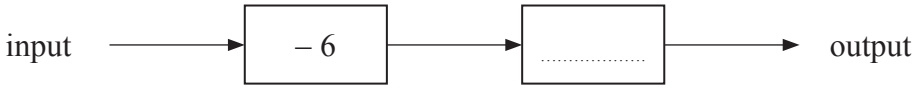


(a) Work out the output when the input is 20

.....

(1)

Here is a different two-stage number machine.



When the input is 10, the output is 12

(b) Complete the number machine.

(1)

(Total for Question 6 is 2 marks)

7 Here is a bus timetable from a Park and Ride car park to a town centre.

Car park	Town centre
0740	0752
0800	0812
0815	0827
then every 15 minutes until	
1815	1827

Sadia gets to the car park at 0745
She catches the next bus to the town centre.

(a) What time should the bus get to the town centre?

.....

(1)

Here is the bus timetable from the town centre to the car park.

Town centre	Car park
0803	0815
0835	0847
0902	0914
0920	0932
then every 15 minutes until	
1920	1932

(b) How many buses go from the town centre to the car park between 0800 and 1000?

.....

(2)

Paul wants to leave the town centre after 1730
He is going to catch a bus to the car park.

(c) What is the time of the first bus Paul can catch from the town centre after 1730?

.....

(1)

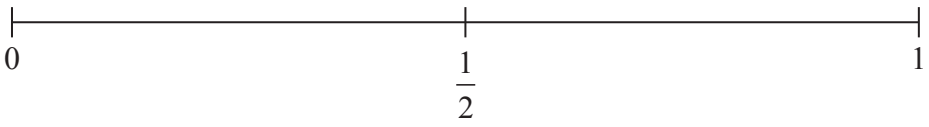
(Total for Question 7 is 4 marks)

8 Tara rolls a fair 6-sided dice once.

(a) (i) Circle the word below that best describes the probability of Tara getting a number less than 6

impossible unlikely evens likely certain

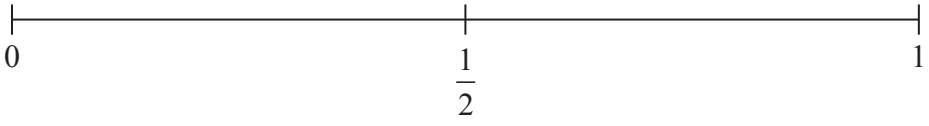
(ii) On the probability scale below, mark with a cross (×) the probability that Tara gets a 10



(2)

Olga throws a fair coin once.

(b) On the probability scale below, mark with a cross (×) the probability that she gets tails.



(1)

Yasmin rolls a fair 6-sided dice once.
She then throws a fair coin once.

(c) List all the possible combinations Yasmin can get.

.....

.....

.....

(2)

(Total for Question 8 is 5 marks)

9 Here is information about the cost of sending a parcel to Europe by Parcel Link.

Next day delivery	£19.00 plus 70p for each kg more than 5 kg
3 day delivery	£16.00 plus 50p for each kg more than 5 kg

Kate is going to send a parcel to Europe by Parcel Link.
The parcel weighs 12 kg.

Kate can send the parcel using next day delivery or using 3 day delivery.

(a) Work out the difference in the two costs.

£.....

(3)

Adam sends a parcel to Europe by Parcel Link.
He uses 3 day delivery.

The cost is £25

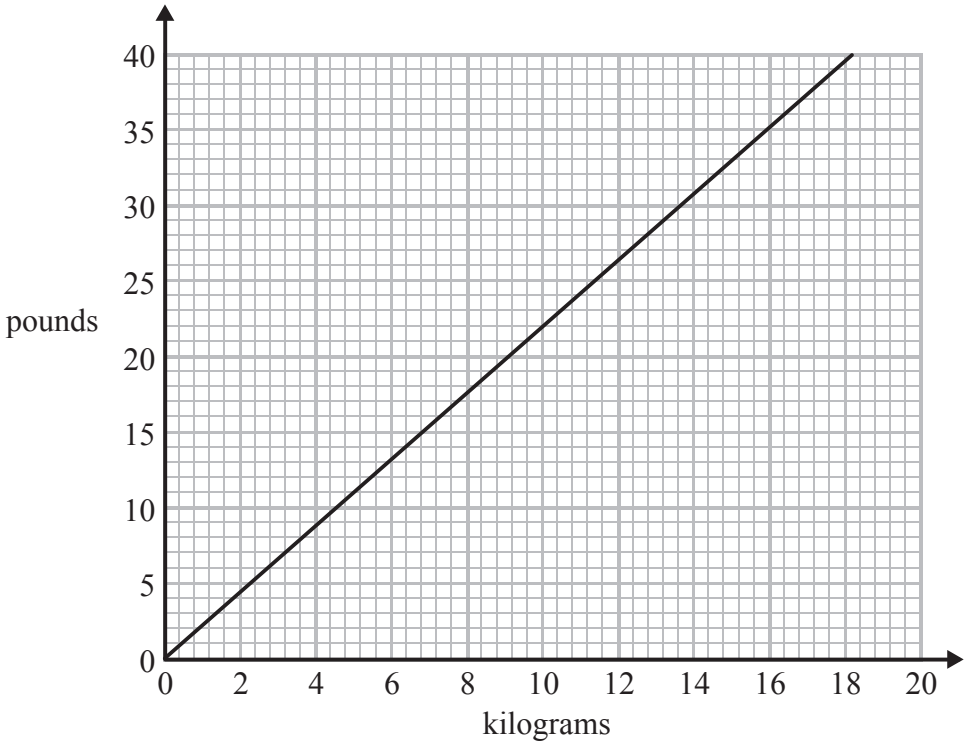
(b) Work out how many kilograms Adam's parcel weighs.

..... kg

(3)

(Total for Question 9 is 6 marks)

10 You can use this graph to change between pounds and kilograms.



(a) Change 13 pounds to kilograms.

..... kilograms

(1)

A trolley can carry a maximum weight of 200 pounds.

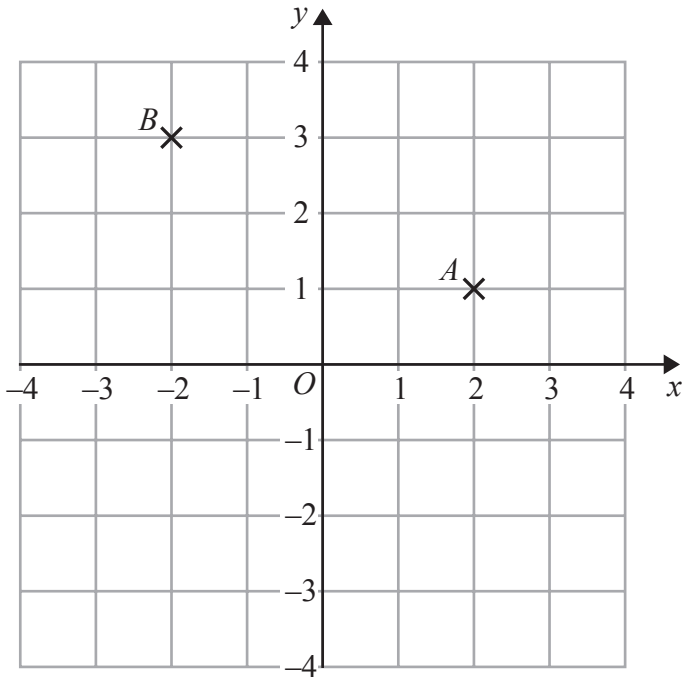
Jack has 4 bags of potatoes.
Each bag of potatoes weighs 25 kilograms.

*(b) Can the trolley carry the 4 bags of potatoes at the same time?
You must show your working.

(3)

(Total for Question 10 is 4 marks)

11



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

(..... , ...)

(1)

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

(..... , ...)

(1)

(c) On the grid, mark with a cross (×) the point (–3, –1).
Label this point C.

(1)

(d) On the grid, draw the line $x = 3$

(1)

(Total for Question 11 is 4 marks)

12 This rule is used to work out a football team's goal difference.

Goal difference = goals for – goals against

The table gives information about five football teams.

Football team	Goals for	Goals against	Goal difference
Arsenal	30	11	19
Chelsea	30	17	.....
Tottenham	15	16	.....
West Ham	.....	19	–6
Fulham	14	.....	–12

Complete the table.

(Total for Question 12 is 4 marks)

13 (a) Solve $x + 3 = 12$

$x =$ .....

(1)

(b) Solve $\frac{y}{5} = 10$

$y =$ .....

(1)

(Total for Question 13 is 2 marks)

***14** Here is information about the maximum size of a small parcel.

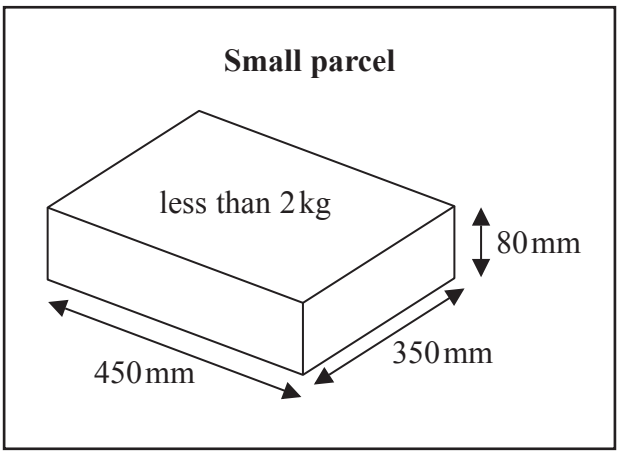


Diagram **NOT** accurately drawn

A small parcel must have

a weight less than 2 kg
and maximum dimensions 450 mm by 350 mm by 80 mm

Kamil has three boxes.
Each box weighs 600 g.
Each box is 40 cm by 21 cm by 2.5 cm.

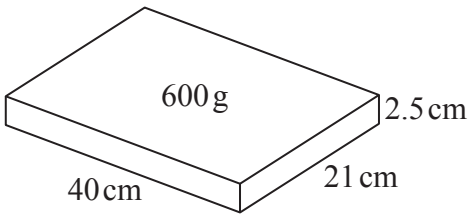
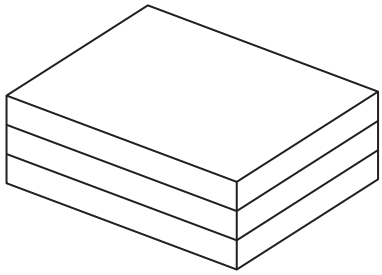


Diagram **NOT** accurately drawn

Kamil puts the three boxes together to make one parcel.



Kamil says that this parcel is a small parcel.

Is Kamil correct?
You must give reasons for your answer.

(Total for Question 14 is 4 marks)

15 Jim asked each person in his class how many cars their family have.

The frequency table shows the results.

Number of cars	Frequency
0	2
1	12
2	8
3	6
4	2

(a) Write down the mode.

.....

(1)

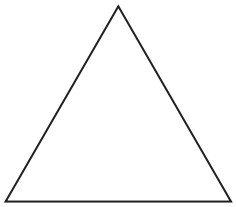
(b) Work out the total number of cars.

.....

(2)

(Total for Question 15 is 3 marks)

16 Here is an equilateral triangle.



(a) On the triangle, draw all the lines of symmetry.

(2)

(b) In the space below, use ruler and compasses to **construct** an equilateral triangle with sides of length 6 centimetres.
You must show all your construction lines.

(2)

Here is an equilateral triangle.

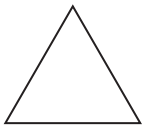
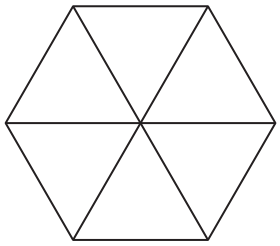


Diagram **NOT** accurately drawn

The perimeter of this equilateral triangle is 24 cm.

The hexagon below is made from 6 of these triangles.

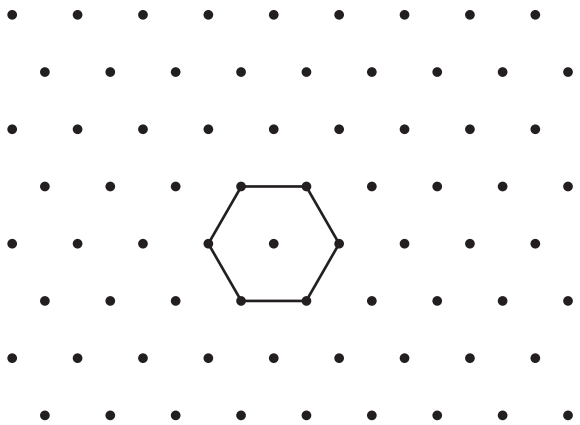


(c) Work out the perimeter of this hexagon.

..... cm

(2)

(d) On the grid below, show how the hexagon tessellates.
You should draw at least 6 hexagons.



(2)

(Total for Question 16 is 8 marks)

17 $a = 4$
$b = -5$

(a) Work out the value of $2a + 3b$

.....

(2)

$x = 3$

(b) Work out the value of $4x^2$

.....

(1)

(Total for Question 17 is 3 marks)

***18**

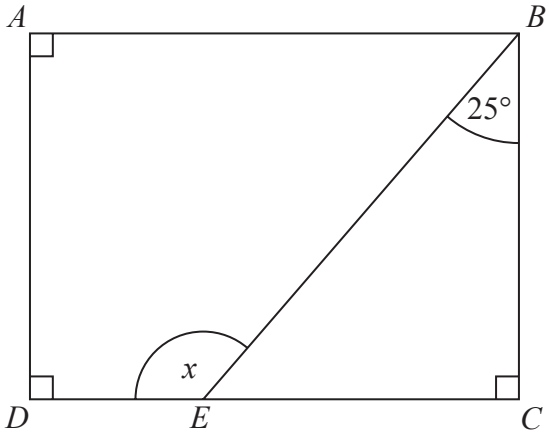


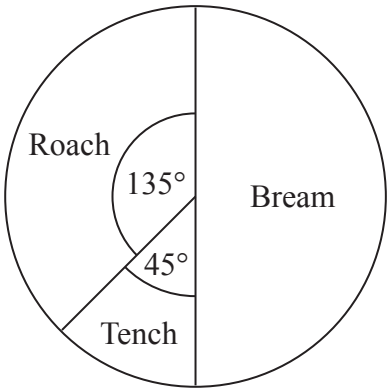
Diagram **NOT** accurately drawn

ABCD is a rectangle.
E is a point on *DC*.
Angle *EBC* = 25°

Work out the size of the angle marked *x*.
Give reasons for your answer.

(Total for Question 18 is 3 marks)

19 The pie chart shows information about the types of fish Simon caught on Saturday.



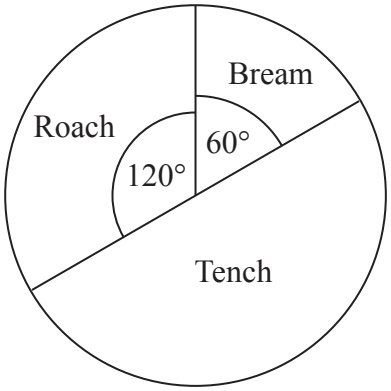
Simon caught 2 tench.

(a) Work out the total number of fish Simon caught.

.....

(2)

This pie chart shows information about the types of fish Asif caught on Saturday.



Debbie says,

"The pie charts show that Simon caught more roach than Asif caught on Saturday."

(b) Is Debbie correct?
Explain your answer.

.....

.....

(1)

(Total for Question 19 is 3 marks)

20 Rachel bought a packet of 60 balloons.

$\frac{1}{10}$ of the balloons were yellow.

$\frac{3}{5}$ of the balloons were red.

The rest of the balloons were blue.

How many of the balloons were blue?

..... balloons

(Total for Question 20 is 3 marks)

21 Jane makes cheese.

The cheese is in the shape of a cuboid.

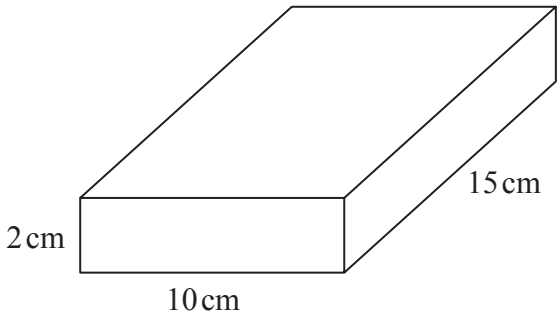


Diagram **NOT** accurately drawn

Jane is going to make a new cheese.

The new cheese will also be in the shape of a cuboid.
The cross section of the cuboid will be a 5 cm by 5 cm square.

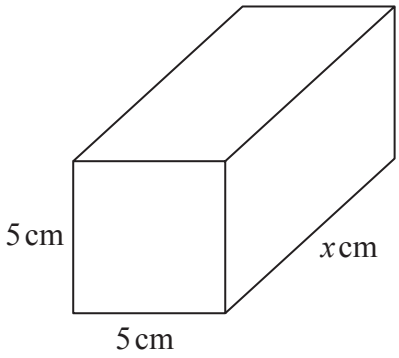


Diagram **NOT** accurately drawn

Jane wants the new cuboid to have the same volume as the 2 cm by 10 cm by 15 cm cuboid.

Work out the value of x.

.....

(Total for Question 21 is 3 marks)

22 Sean works for a town council.
He wants to find out how often people use the BMX track in the town.
He is going to use a questionnaire.

Design a suitable question for Sean to use in his questionnaire.

(Total for Question 22 is 2 marks)

23 (a) Factorise $8x + 6$

.....

(1)

(b) Factorise $y^2 - 2y$

.....

(1)

(c) Simplify fully $\dfrac{p^3 \times p^4}{p^2}$

.....

(2)

(Total for Question 23 is 4 marks)

***24** Tom is going to buy 25 plants to make a hedge.

Here is information about the cost of buying the plants.

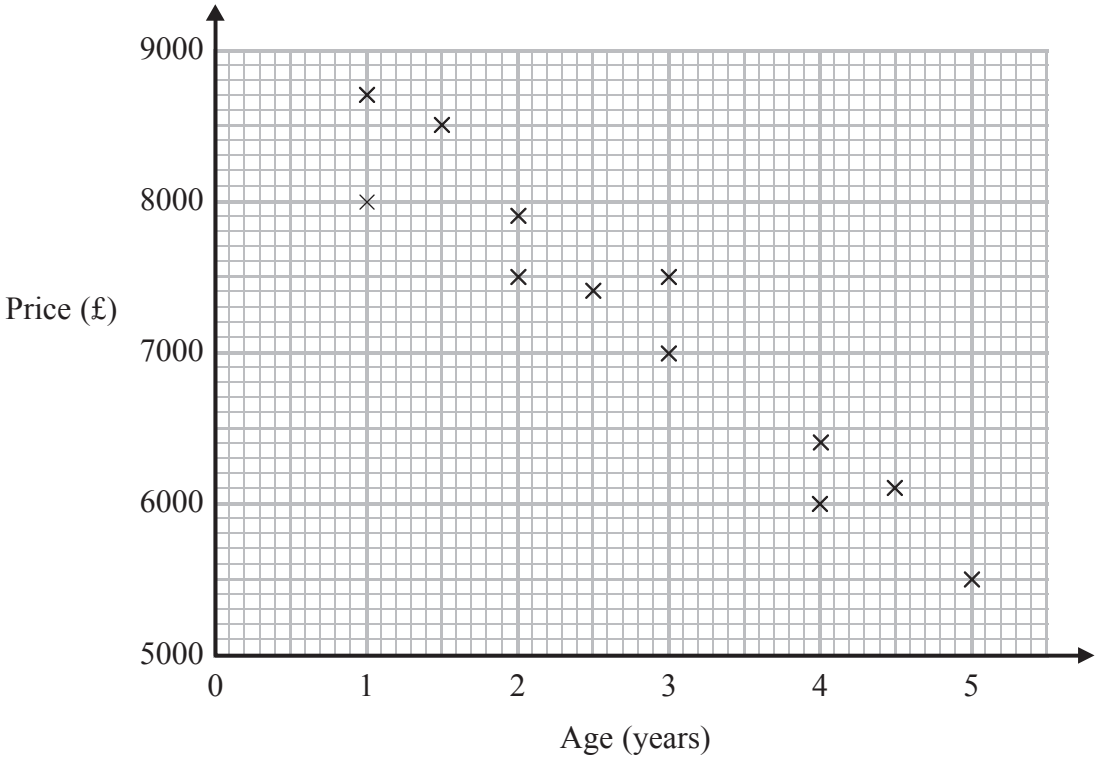
Kirsty's Plants	**Hedge World**
£2.39 each	Pack of 25 £52.50 plus VAT at 20%

Tom wants to buy the 25 plants as cheaply as possible.

Should Tom buy the plants from Kirsty's Plants or from Hedge World?
You must show all your working.

(Total for Question 24 is 5 marks)

25 The scatter graph shows information about the age and the price of each of 12 cars of the same model.



(a) Describe the relationship between the age of a car and its price.

.....

.....

(1)

A different car of the same model is $3\frac{1}{2}$ years old.

(b) Estimate the price of this car.

£.....

(2)

(Total for Question 25 is 3 marks)

26 John buys some boxes of pencils and some packets of pens for people to use at a conference.

There are 40 pencils in a box.
There are 15 pens in a packet.

John gives one pencil and one pen to each person at the conference.
He has no pencils left.
He has no pens left.

How many boxes of pencils and how many packets of pens did John buy?

..... boxes of pencils

..... packets of pens

(Total for Question 26 is 3 marks)

***27** The diagram shows the floor plan of Mary's conservatory.

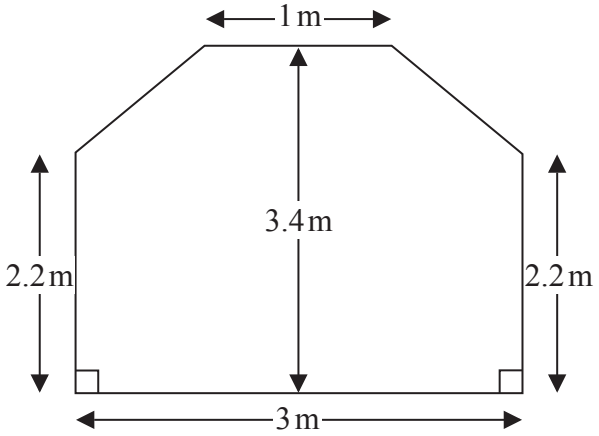


Diagram **NOT** accurately drawn

Mary is going to cover the floor with tiles.

The tiles are sold in packs.
One pack of tiles will cover $2\,m^2$
A pack of tiles normally costs £24.80
Mary gets a discount of 25% off the cost of the tiles.

Mary has £100

Does Mary have enough money to buy all the tiles she needs?
You must show all your working.

(Total for Question 27 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS

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