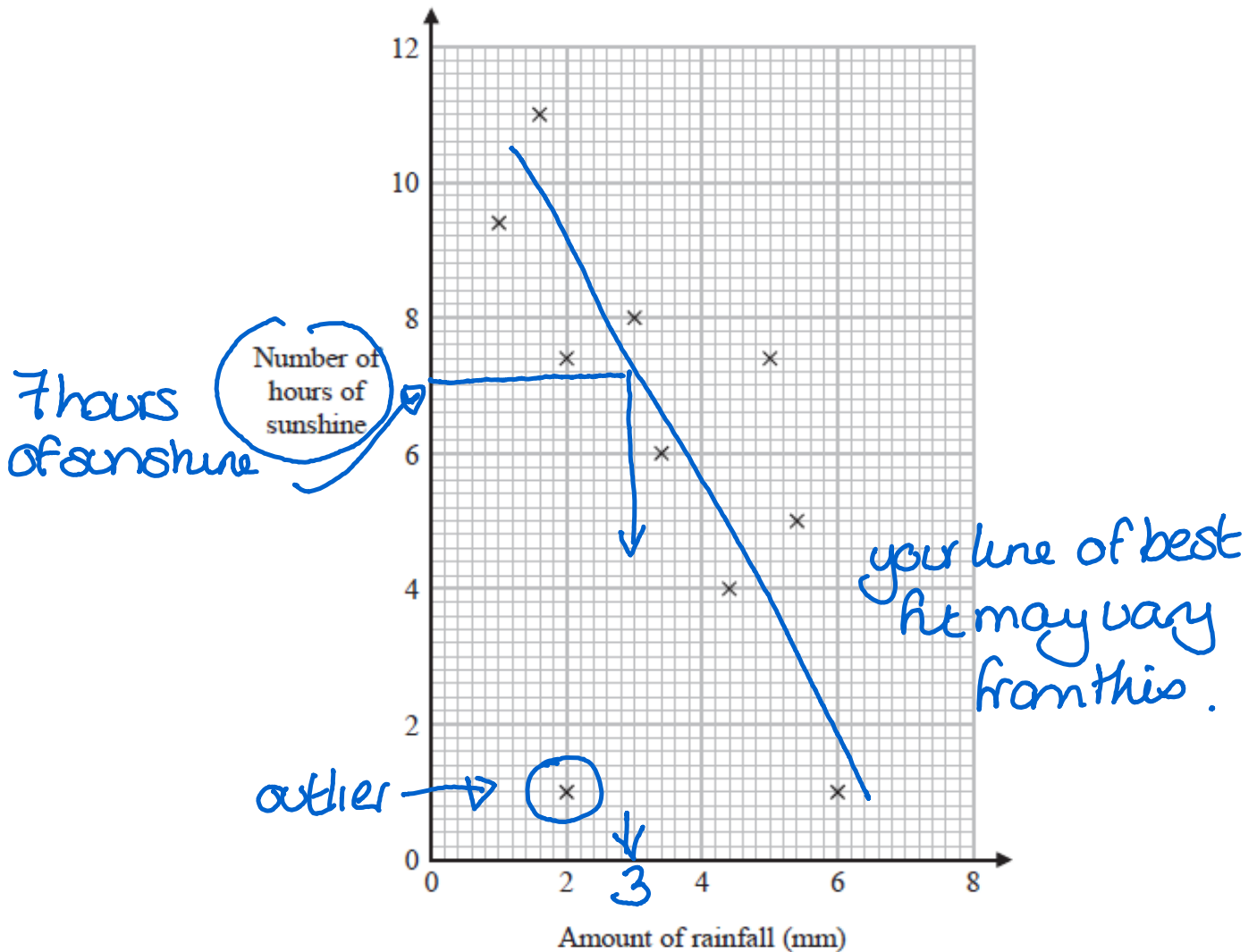


Answer ALL THIRTEEN questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 The scatter graph shows information about the amount of rainfall, in mm, and the number of hours of sunshine for each of ten English towns on the same day.



One of the points is an outlier.

(a) Write down the coordinates of this point.

(2 , 1)
(1)

(b) Ignoring the outlier, describe the relationship between the amount of rainfall and the number of hours of sunshine.

There is a negative correlation, in that amount of rainfall decreases, the amount of sunshine increases.

(1)

On the same day in another English town there were 7 hours of sunshine.

(c) Using the scatter graph, estimate the amount of rainfall in this town on this day.

this will depend on your line so a range is accepted.

3

mm (2)

(Total for Question 1 is 4 marks)

2 Change 53 centimetres to millimetres.

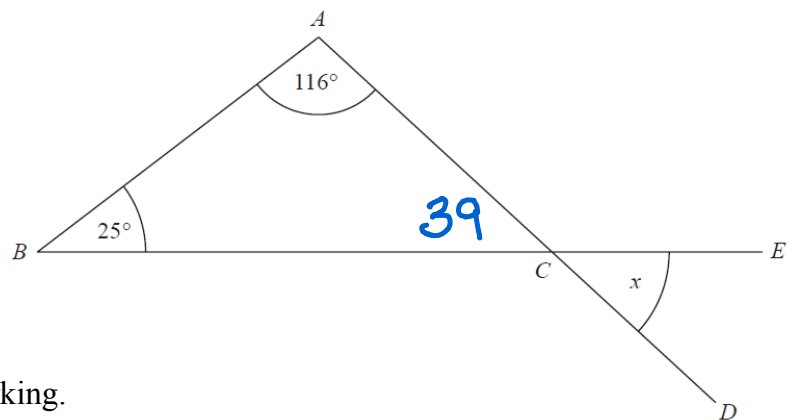
1cm = 10mm
53cm = 530

530

millimetres

(Total for Question 2 is 1 mark)

3 The diagram shows a triangle ABC .



ACD and BCE are straight lines.

Work out the size of the angle marked x .

Give a reason for each stage of your working.

$$180 - (25 + 116) = 180 - 141 = 39$$

angles in a triangle = 180

$x = 39$ because vertically opposite angles are equal

39

°

(Total for Question 3 is 3 marks)

- 4 There are x sweets in a box. There are y sweets in a packet.
Write an expression, in terms of x and y , for the total number of sweets in 3 boxes and 2 packets.

$$3x + 2y$$

$$(T =) 3x + 2y$$

(Total for Question 4 is 2 marks)

- 5 The table shows information about the number of social media accounts used by each of 300 students.

Number of social media accounts	Frequency
0	3
1	57
2	84
3	75
4	81

0
57
168
225
324.

Work out the total number of social media accounts used by these students.

$$0 + 57 + 168 + 225 + 324$$

774

(Total for Question 5 is 2 marks)

- 6 A shop has two different special offers on milk.

Which offer gives the better value for money?
You must show how you get your answer.

$$2 \text{ pints} = 75p$$

$$4 \text{ pints} = \text{€}1.50$$

$$6 \text{ pints} = \text{€}1.50$$

$$4 \text{ pints} = 1.28$$

$$8 \text{ pints} = 64$$

$$8 \text{ pints} = 1.92$$



75p

Pay for 2 bottles
get 1 bottle free



£1.28

Pay for 1 bottle
get 1 bottle half price

$$1 \text{ pint} = 1.50 \div 6$$

$$= 25p$$

$$1 \text{ pint} = 1.92 \div 8$$

$$= 24p$$

The 4 pint offer is the best value

(Total for Question 6 is 4 marks)

7 Solve $5(2m - 6) = 40$

$$10m - 30 = 40$$

$$10m = 70$$

$$m = 7$$

$$m = 7$$

(Total for Question 7 is 3 marks)

- 8 In Spain, Sam pays 27 euros for 18 litres of petrol.
In Wales, Leo pays £40.80 for 8 gallons of the same type of petrol.
1 euro = £0.85
4.5 litres = 1 gallon
Sam thinks that petrol is cheaper in Spain than in Wales.
Is Sam correct?
You must show how you get your answer.

Spain

$$27 \text{ Euro} = 18 \text{ litres} \\ \div 4.5 \\ = 4 \text{ gallons}$$

$\times 2$

$$54 \text{ Euro} = 8 \text{ gallons}$$

$$54 \times 0.85$$

$$= £45.90 = 8 \text{ gallons}$$

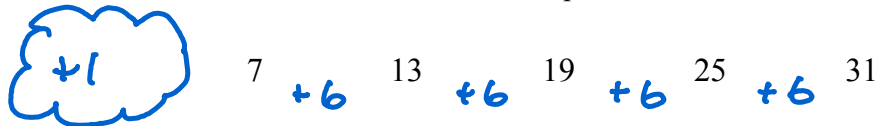
Wales

$$£40.80 = 8 \text{ gallons}$$

No, Sam is wrong it is cheaper in Wales.

(Total for Question 8 is 4 marks)

9 Here are the first five terms of an arithmetic sequence.



Find an expression, in terms of n , for the n th term of this sequence.

$$6n + 1$$

.....
(Total for Question 9 is 2 marks)

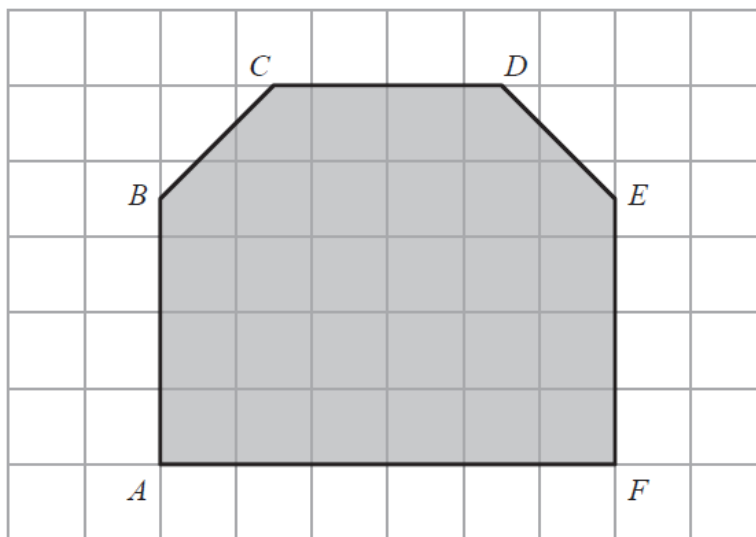
10 Expand and simplify $4(x + 3) + 7(4 - 2x)$

$$4x + 12 + 28 - 14x$$
$$= -10x + 40$$

$$40 - 10x \text{ or } -10x + 40$$

.....
(Total for Question 10 is 2 marks)

11 Here is polygon $ABCDEF$ on a square grid.



Write down the mathematical name of the polygon.

.....
Hexagon

.....
(Total for Question 11 is 1 mark)

- 12 On a scale drawing, a building has length 12.4 cm and width 9.4 cm.
 The real length of the building is 62 metres.
 Work out, in metres, the real width of the building.

Drawing $\left\{ \begin{array}{l} 12.4\text{cm} \\ 9.4 \end{array} \right\} \times 5$
 Real $\left\{ \begin{array}{l} 62\text{m} \\ 47 \end{array} \right\}$

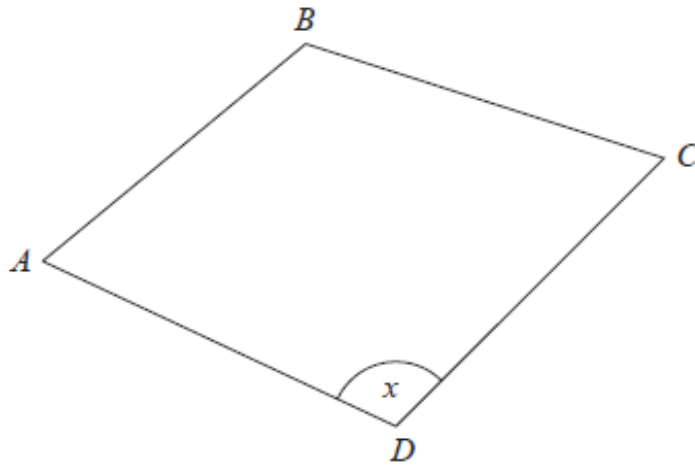
$$62 \div 12.4 = 5$$

47m

..... metres

(Total for Question 12 is 3 marks)

- 13 Here is a quadrilateral $ABCD$.



Measure the size of the angle marked x .

(range accepted 108 to 112)

110

.....°

(Total for Question 13 is 1 mark)

TOTAL FOR PAPER IS 32 MARKS