Write your name here

Surname mel@just maths.co.uk | Other names

Pearson Edexcel
Level 1/Level 2 GCSE (9–1)

Centre Number | Candidate Number

Mathematics Worked Solutions

Paper 2 (Calculator) (there may be other methods too!)

Achieving a Grade 3

Foundation Tier

Spring 2023 Practice Paper
32 marks 30 minutes

Paper Reference
1MA1/2F

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.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **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 32. There are 13 questions.
- This paper assumes students have worked through the "Achieving a Grade 1 and Grade 2 papers" and as a result may have already seen a small number of these questions.
- All the questions are placed in ascending order of mean difficulty as found by students achieving Grade 3 in the Summer and November 2022 examinations.
- 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

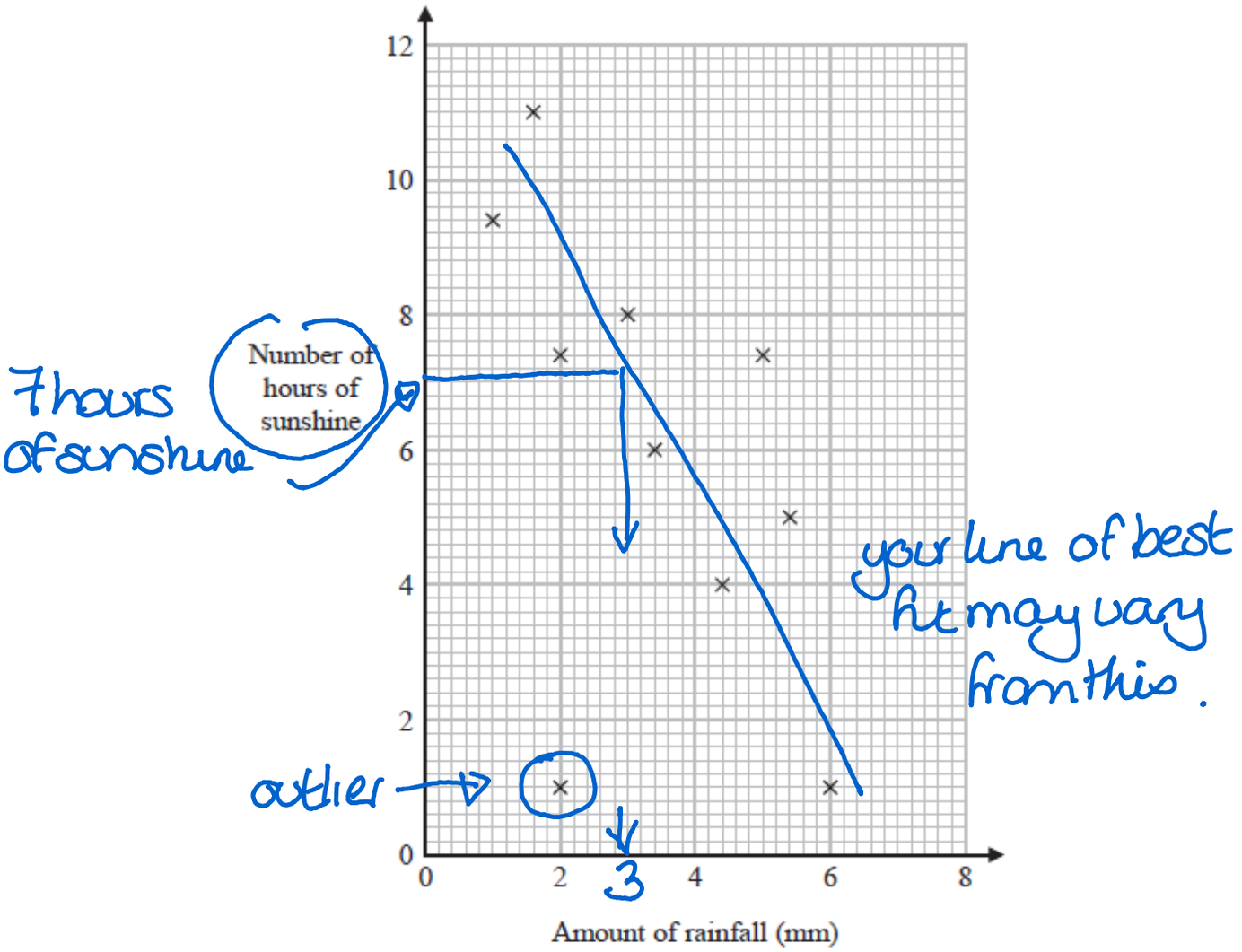
- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Answer ALL 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)

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2 Change 53 centimetres to millimetres.

1cm = 10 mm

53cm = 530

530 millimetres

(Total for Question 2 is 1 mark)

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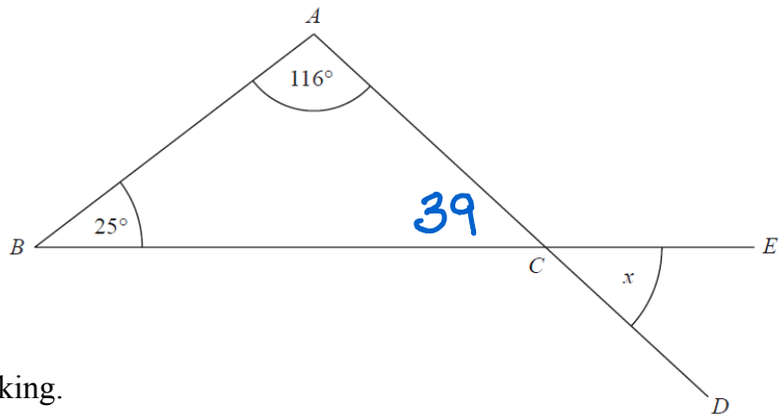
3 The diagram shows a triangle *ABC*.



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)

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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	0
1	×	57	57
2	×	84	168
3	×	75	225
4	×	81	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)

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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.

75p

Pay for 2 bottles
get 1 bottle free

£1.28

Pay for 1 bottle
get 1 bottle half price

2 pints = 75p
4 pints = £1.50
6 pints = £1.50

4 pints = 1.28
8 pints = 64
8 pints = 1.92

1 pint = 1.50 ÷ 6
= 25p

1 pint = 1.92 ÷ 8
= 24p

The 4 pint offer is the best value

(Total for Question 6 is 4 marks)

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

$10n - 30 = 40$

$10n = 70$

$n = 7$

$m =$ 7

(Total for Question 7 is 3 marks)

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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 Euro = 18 litres

÷ 4.5

= 4 gallons

x2

54 euro = 8 gallons

Wales

£40.80 = 8 gallons

x 2

54 x 0.85

= £45.90 = 8 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.

+1 7 +6 13 +6 19 +6 25 +6 31

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

$6n + 1$

Total for Question 9 is 2 marks)

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

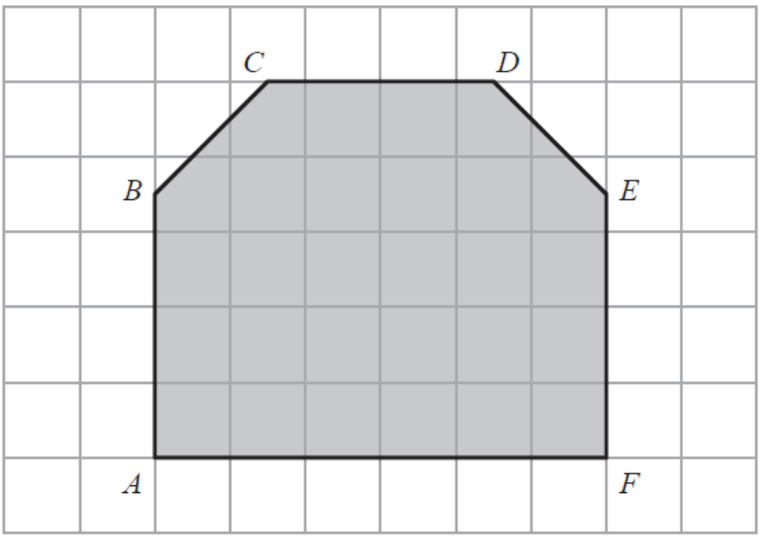
$4x + 12 + 28 - 14x$

$= -10x + 40$

$40 - 10x$ 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 12.4cm 9.4 x5
Real 62m 47

62 ÷ 12.4 = 5

47m

..... metres

(Total for Question 12 is 3 marks)

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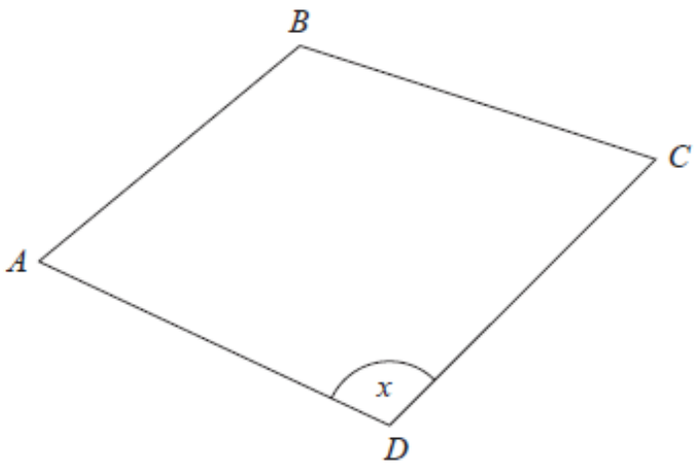
13 Here is a quadrilateral *ABCD*.



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