

Write your name here

Surname

Other names

In the style of:

Edexcel GCSE

Centre Number

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Candidate Number

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Mathematics A

Example Booklet

Model Answers

Higher Tier

Past Paper Style Questions
Arranged by Topic

Paper Reference

1MA0/1H

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.

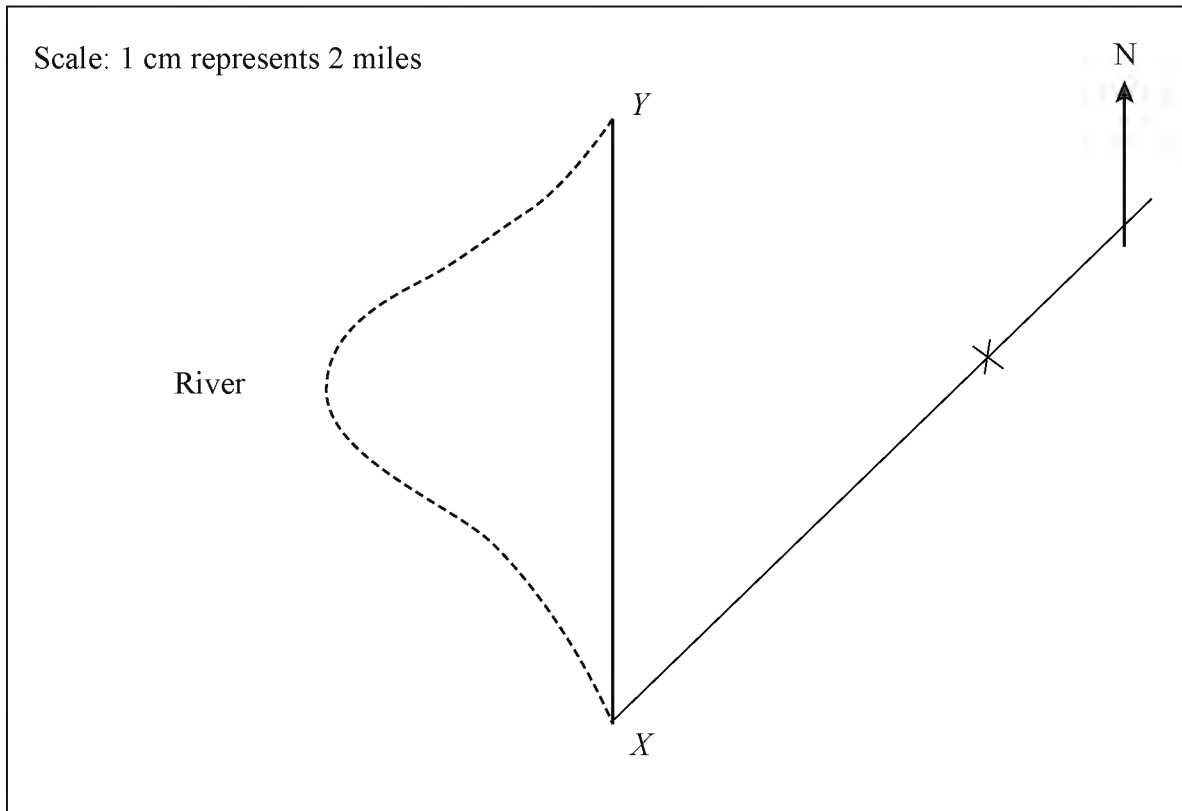
Advice

- 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 ►



4. An helicopter flies due North from X to Y .
The distance from X to Y on the river is 24 miles.



- 4 (a) How much further is it from X to Y on the river than by helicopter?

$$XY = 8.1 \text{ cm}$$

$$8.1 \times 2 = 16.2 \text{ miles}$$

$$24 - 16.2 = 7.8$$

.....7.8..... miles

(3)

- (b) Z is 12 miles north-east of X .

- (i) Mark with a cross the point Z on the diagram.

(2)

- (ii) Write down the three-figure bearing of Z from X .

.....045..... $^{\circ}$

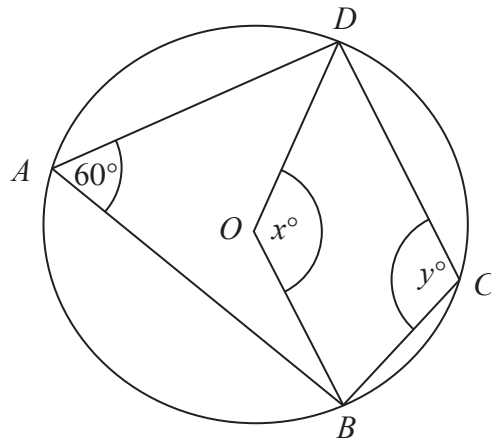
(1)

(Total 6 marks)



6.

Diagram **NOT**
accurately drawn



In the diagram, A , B , C and D are points on the circumference of a circle, centre O .
Angle $BAD = 60^\circ$.

Angle $BOD = x^\circ$.

Angle $BCD = y^\circ$.

(a) (i) Work out the value of x .

$$x = \dots 120 \dots$$

(ii) Give a reason for your answer.

.....The angle subtended at the centre of a circle is twice the angle.....

.....subtended at the circumference.....

(2)

(b) (i) Work out the value of y .

$$y = \dots 120 \dots$$

(ii) Give a reason for your answer.

.....The opposite angles in a cyclic quadrilateral add up to 180°

.....

(2)

(Total 4 marks)



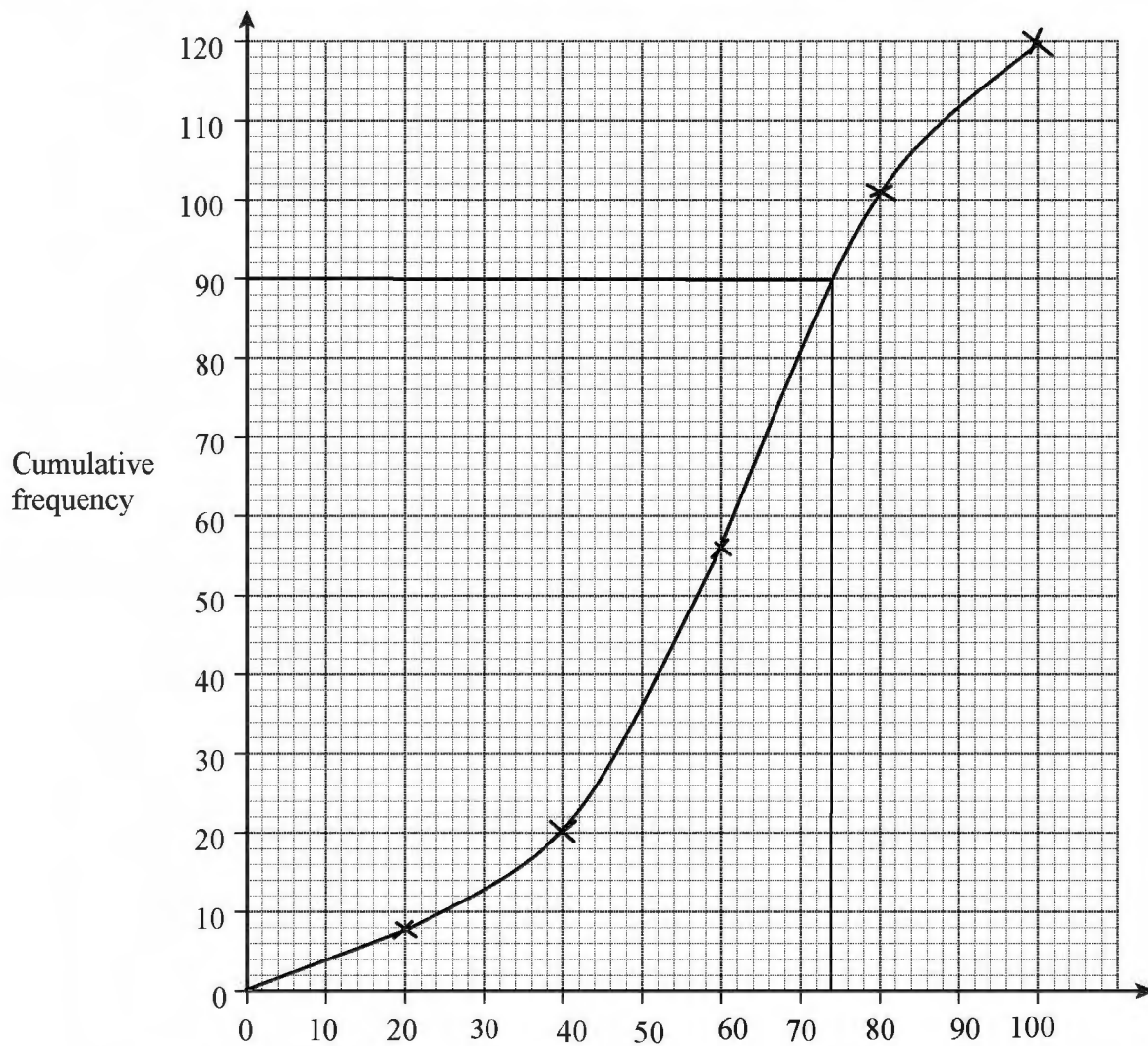
5.

The table shows a summary of the marks scored by 120 people in a test.

Mark	Frequency	Cumulative Frequency
$0 < \text{mark} \leq 20$	8	8
$20 < \text{mark} \leq 40$	12	20
$40 < \text{mark} \leq 60$	46	66
$60 < \text{mark} \leq 80$	35	101
$80 < \text{mark} \leq 100$	19	120

(a) Three-quarters of the people pass the test.

Use a cumulative frequency graph to estimate the pass mark.



.....74.....

(5)



9. A concert ticket costs £65 plus a booking charge of 15%.

Work out the total cost of a concert ticket.

Method 1

$$65 \times \frac{15}{100} = 9.75$$

$$65 + 9.75 = 74.75$$

Method 2

$$65 \times 1.15 = 74.75$$

Method 3

Using a simple calculator key in:

$$65 + 15\% = 74.75$$

£ ...74.75.....

(Total 3 marks)

10. A school canteen sells salads and hot meals.

In one week the number of salads sold and the number of hot meals sold were in the ratio 3 : 5

The total number of salads and hot meals sold in the week was 1456

Work out the number of salads sold.

3 : 5

$$3 + 5 = 8$$

There are 8 shares

$$1456 \div 8 = 182$$

Each share is 182

$$3 \times 182 = 546$$

.....546.....

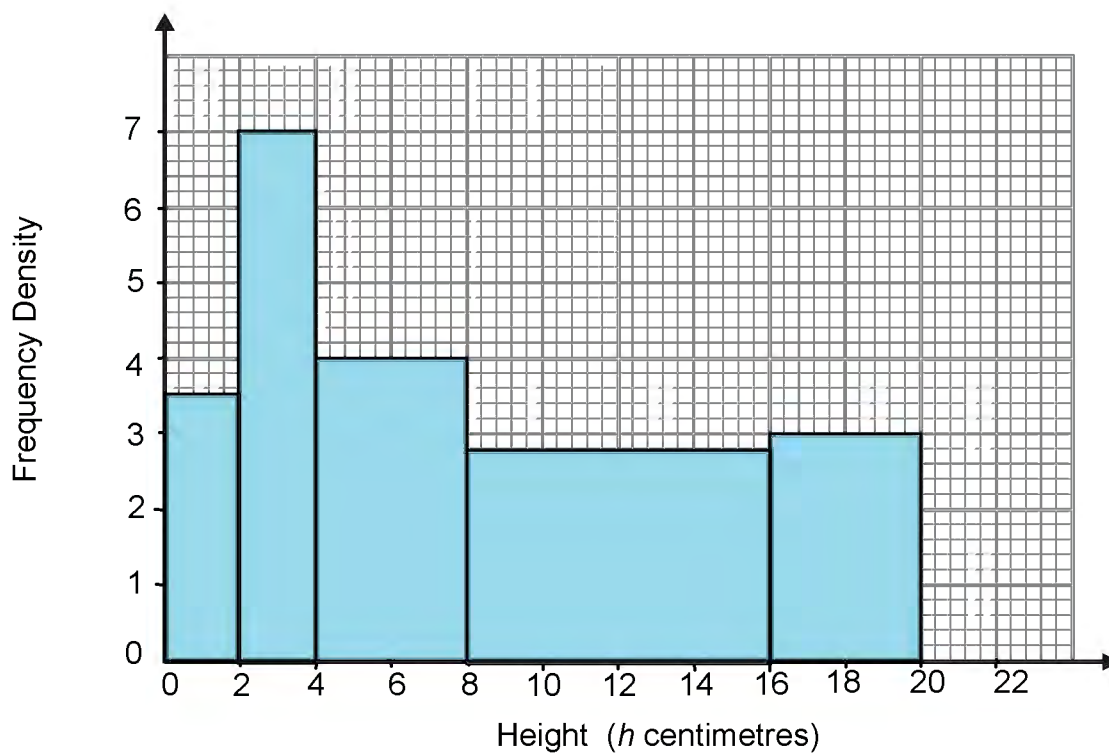
(Total 2 marks)



2. The table gives information about the heights, h centimetres, of plants in a greenhouse.

Height (h centimetres)	Frequency	F.D
$0 < h \leq 2$	7	3.5
$2 < h \leq 4$	14	7
$4 < h \leq 8$	16	4
$8 < h \leq 16$	22	2.75
$16 < h \leq 20$	12	3

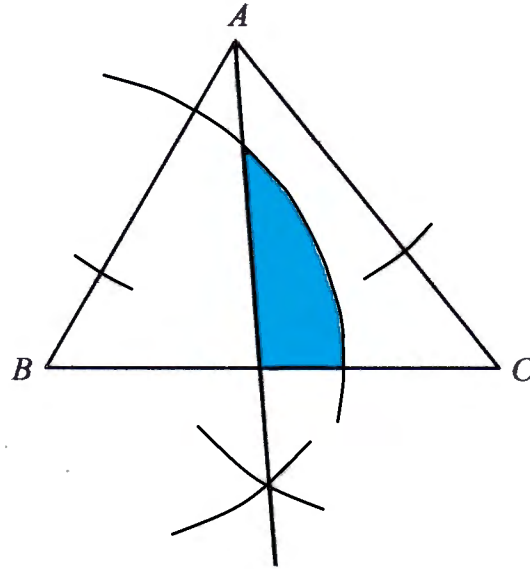
Draw a histogram to show this information.



(Total 3 marks)



4.



ABC is a triangle.

Shade the region inside the triangle which is both

less than 4 centimetres from the point B
and closer to the line AC than the line AB .

(Total 4 marks)

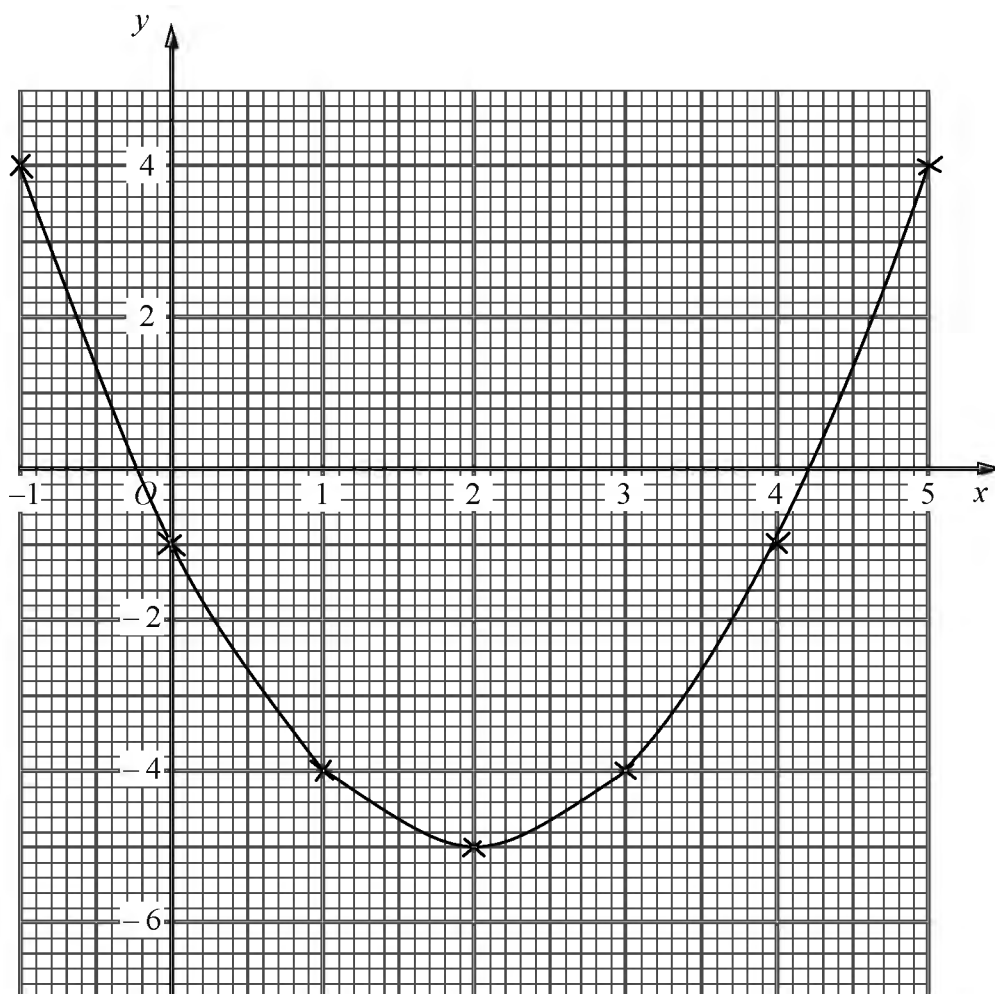


5. (a) Complete the table of values for $y = x^2 - 4x - 1$

x	-1	0	1	2	3	4	5
y	4	-1	-4	-5	-4	-1	4

(2)

(b) On the grid, draw the graph of $y = x^2 - 4x - 1$



(2)

(c) Use your graph to estimate the values of x when $y = -3$

$x = \dots 0.6 \dots$

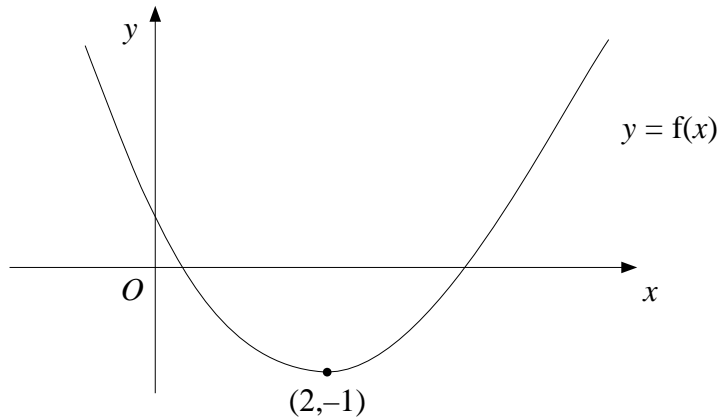
$x = \dots 3.4 \dots$

(2)

(Total 6 marks)



1.



The diagram shows part of the curve with equation $y = f(x)$

The minimum point of the curve is at $(2, -1)$

(a) Write down the coordinates of the minimum point of the curve with equation

(i) $y = f(x - 2)$ $(4, -1)$
Graph moves right 2

(ii) $y = 2f(x)$ $(2, -2)$
Stretch y by 2

(iii) $y = f(2x)$ $(1, -1)$
Shrink x by 2 (3)

The curve $y = f(x)$ is reflected in the y axis.

(b) Find the equation of the curve following this transformation.

See summary of rules below question 2

$$y = \dots f(-x) \dots \quad (1)$$

The curve with equation $y = f(x)$ has been transformed to give the curve with equation $y = f(x) + 2$

(c) Describe the transformation.

..... Translation by 2 units parallel to the y axis. (Graph moves up 2)
(1)

(Total 5 marks)

