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4MA1 Nov 2026 Paper 1 Best Guess Paper

Higher · Standard

Disclaimer

This independently compiled practice paper is designed for students preparing for Pearson Edexcel International GCSE Mathematics A (4MA1), Higher Tier, Paper 1H. It covers a range of accessible and challenging Higher Tier questions for standard exam practice, rather than focusing only on a particular target grade. A calculator may be used.

It is not an official Pearson Edexcel examination paper and is not endorsed by Pearson. The selection draws on previous exam-style material to support revision. There is no guarantee that these questions or topics will appear in the real examination. Claims of a perfectly predicted paper should not be relied on.

The best preparation is to revise the full specification. Attempt the paper, use the mark scheme and worked solutions to review your work, and practise related topics with the free worksheets and clips at www.mygrade9mathstutor.com.

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Video walkthrough

Calculator allowed · 25 questions · 100 marks · Suggested time: 2 hours.
Attempt every question. Show your working, then review the mark scheme and worked solutions.

Answer ALL TWENTY-FIVE questions.
Write your answers in the spaces provided.
You must show all stages of your working.

1 Show that $3\frac{1}{5} - 1\frac{2}{3} = 1\frac{8}{15}$

(Total for Question 1 is 2 marks)

Model Solution	Practice Perfect Questions

2. Find an expression, in terms of n, for the nth term of the sequence 7, 11, 15, 19, 23

(Total for Question 2 is 2 marks)

Model Solution	Practice Perfect Questions

3. Work out $\frac{3.6 \times 10^{22}}{4.5 \times 10^{-6}}$

Give your answer in standard form.

.....

(Total for Question 3 is 2 marks)

Model Solution	Practice Perfect Questions

4 The length of a table is measured as 1.6 metres correct to one decimal place.

(a) Write down the upper bound of the length of the table.

..... metres (1)

(b) Write down the lower bound of the length of the table.

..... metres (1)

(Total for Question 4 is 2 marks)

Model Solution	Practice Perfect Questions
	

5 (a) Simplify $a^6 \times a^{10}$

.....

(1)

(b) Simplify $c^{30} \div c^{12}$

.....

(1)

Model Solution	Practice Perfect Questions

(c) (i) Factorise $x^2 - 10x + 24$

.....

(2)

(ii) Hence, solve $x^2 - 10x + 24 = 0$

.....

(1)

(Total for Question 5 is 5 marks)

Model Solution	Practice Perfect Questions

6. Solve the simultaneous equations:

$$3x + 2y = 16$$
$$4x - 3y = 27$$

Show clear algebraic working

(Total for Question 6 is 3 marks)

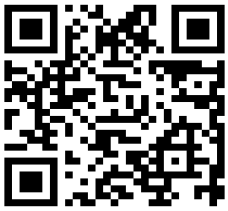
Model Solution	Practice Perfect Questions

7 The table gives information about the masses, m kg, of 50 luggage bags:

Mass (m kg)	Frequency
$0 < m \leq 5$	6
$5 < m \leq 10$	14
$10 < m \leq 15$	18
$15 < m \leq 20$	8
$20 < m \leq 25$	4

Calculate an estimate for the mean mass of the 50 luggage bags.

(Total for Question 7 is 3 marks)

Model Solution	Practice Perfect Questions
	

8 A solid cylinder has a radius of 4.5 cm and a height of 10 cm. Calculate the volume of the cylinder. Give your answer correct to 3 significant figures.

(Total for Question 8 is 3 marks)

Model Solution	Practice Perfect Questions

9 Carlos changes £600 into Euros (€).
The exchange rate is £1 = €1.15.
Carlos divides his Euros into money to spend and money to save in the ratio 3: 2.
He changes the money to save back into Pounds (£).
The new exchange rate is £1 = €1.18.
Work out how many Pounds (£) Carlos receives.
Give your answer to the nearest penny.

(Total for Question 9 is 5 marks)

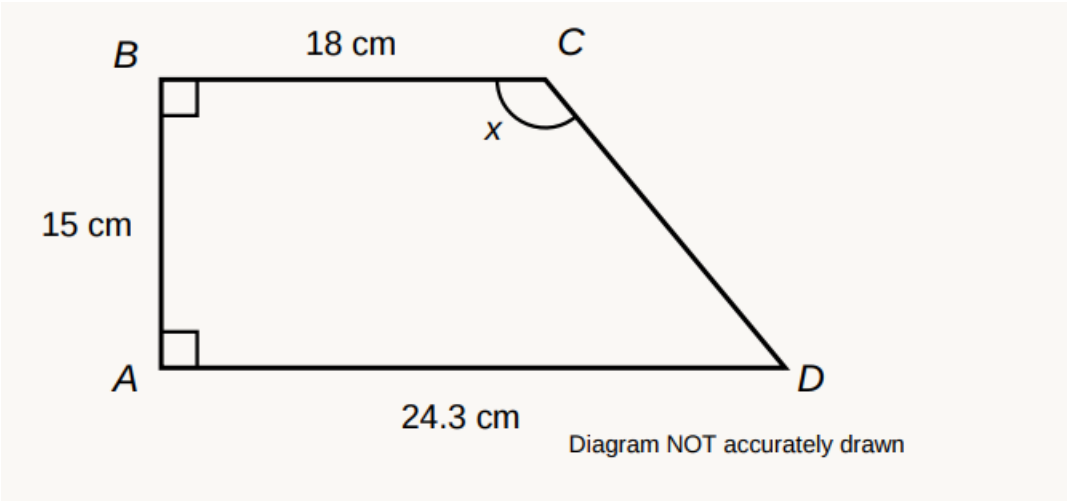
Model Solution	Practice Perfect Questions

10 Elena bought a commercial printing machine for £85,000.
In the first year, the value of the machine depreciated by 12%.
In the second year, the value of the machine depreciated by 15%.
In the third year, the value of the machine increased by x%.
At the end of the third year, the value of Elena's machine was £66,759.
Work out the value of x.

(Total for Question 10 is 4 marks)

Model Solution	Practice Perfect Questions

11 *ABCD* is a trapezium.



Work out the size of angle x.
Give your answer correct to 1 decimal place.

(Total for Question 11 is 3 marks)

Model Solution	Practice Perfect Questions

12 The grouped frequency table shows information about the weekly wages of 80 workers.

Weekly wage (£x)	Frequency
$100 < x \leq 200$	8
$200 < x \leq 300$	15
$300 < x \leq 400$	37
$400 < x \leq 500$	10
$500 < x \leq 600$	7
$600 < x \leq 700$	3

(a) Complete the cumulative frequency table.

Weekly wage (£x)	Cumulative Frequency
$100 < x \leq 200$	
$100 < x \leq 300$	
$100 < x \leq 400$	
$100 < x \leq 500$	
$100 < x \leq 600$	
$100 < x \leq 700$	

(1)

(b) On the grid opposite, draw a cumulative frequency graph for your table.

(2)

(c) Use your graph to find an estimate for the median wage.

.....

(1)

(d) Use your graph to find an estimate for the interquartile range.

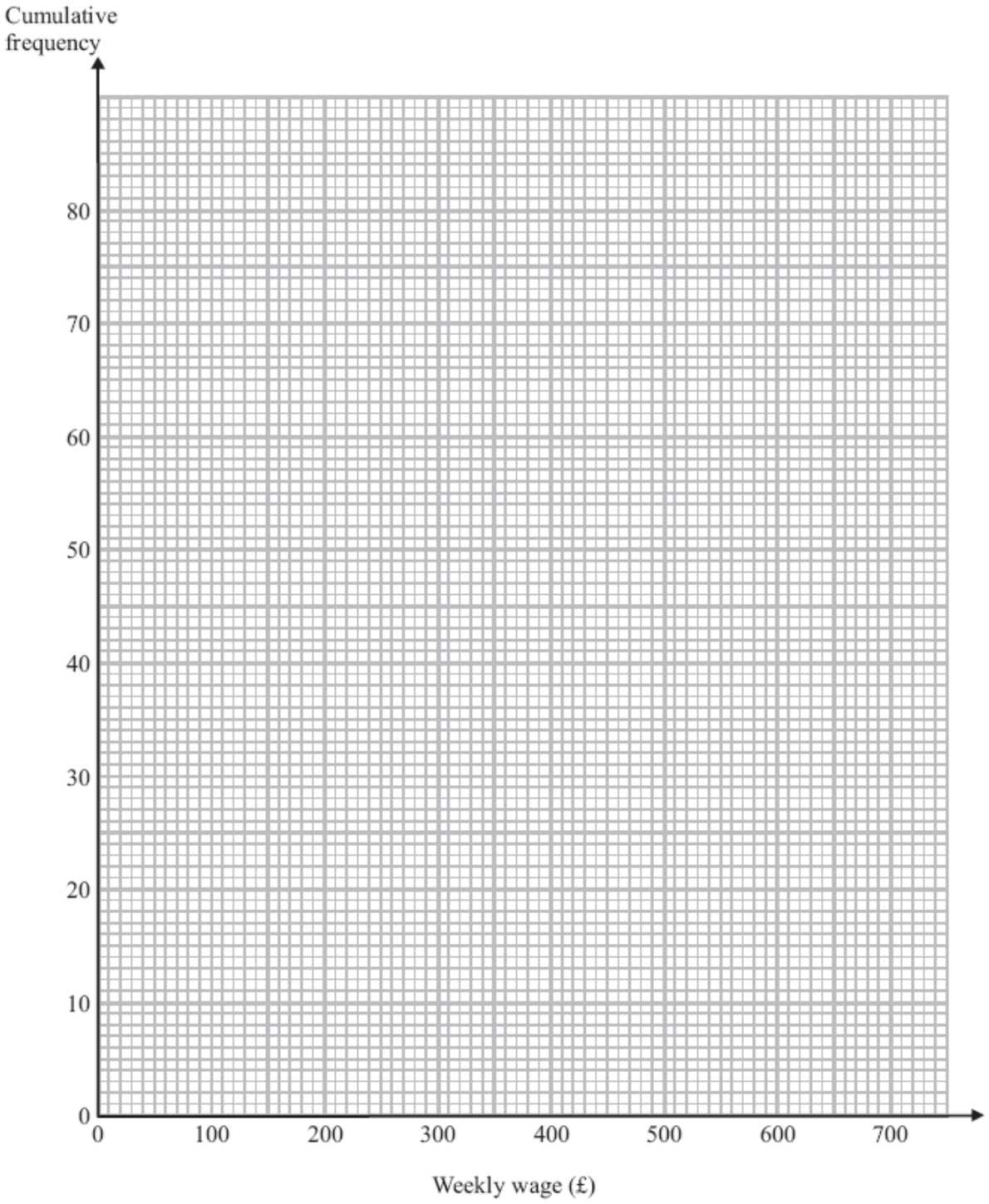
£ .....

(2)

(e) Use your graph to find an estimate for the number of workers with a weekly wage of more than £430

.....

(2)



(Total for Question 12 is 8 marks)

Model Solution	Practice Perfect Questions

13 Use algebra to show that $0.3\dot{8}\dot{1} = \frac{21}{55}$

(Total for Question 13 is 3 marks)

Model Solution	Practice Perfect Questions

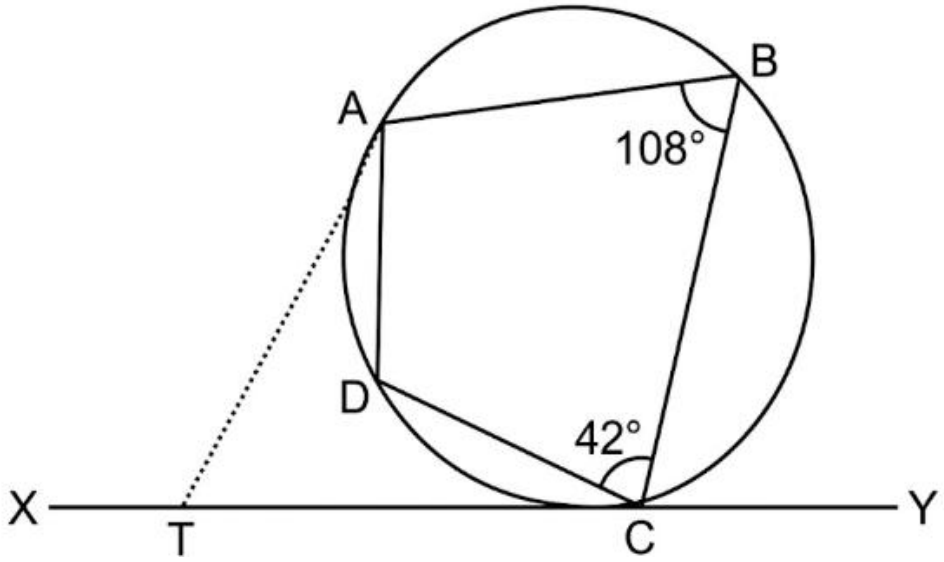
14 y is directly proportional to the square of t.
$y = 20$ when $t = 2$
t is inversely proportional to the square root of x.
$t = 3$ when $x = 4$
Find a formula for y in terms of x.
Give your answer in its simplest form.

(Total for Question 14 is 4 marks)

Model Solution	Practice Perfect Questions

15.

Points A, B, C, and D lie on the circumference of a circle.



The straight line XY is a tangent to the circle at the point C.
The line AD is extended to meet the tangent at a point T.
Angle $ACX = 42°$ and Angle $ABC = 108°$.
Calculate the size of Angle CDA.
You must give a formal geometrical reason for each stage of your working.

(Total for Question 15 is 3 marks)

Model Solution	Practice Perfect Questions

16 Solve the quadratic inequality: $3x^2 - 5 \leq 14x$
Show clear algebraic working.

(Total for Question 16 is 3 marks)

Model Solution	Practice Perfect Questions

17 Make y the subject of the formula:

$$p = \sqrt{\frac{2y + 5}{3y - k}}$$

(Total for Question 17 is 3 marks)

Model Solution	Practice Perfect Questions

18 The straight-line L has equation $2x + y = 7$.
The curve C has equation $x^2 + y^2 - 4x + 2y = 32$.
Find the coordinates of the points where L and C intersect.
Show clear algebraic working.

.....

(Total for Question 18 is 5 marks)

Model Solution	Practice Perfect Questions

19

Show that the following expression can be written in the form $a + b\sqrt{3}$, where a and b are integers:

$$\frac{\left(2+\sqrt{3}\right)^2}{2-\sqrt{3}}$$

Show all stages of your working clearly.

(Total for Question 19 is 4 marks)

Model Solution	Practice Perfect Questions

20 Solve the equation to 3 significant figures:

$$\frac{3}{x-2} - \frac{4}{2x+1} = 1$$

Show clear algebraic working.

(Total for Question 20 is 5 marks)

Model Solution	Practice Perfect Questions

21 The functions f and g are defined as:

$$f(x) = \frac{2x+1}{x-3},\ x \neq 3 \quad \text{and } g(x) = x^2 - 4$$

(a) Find $f^{-1}(x)$

(3)

(b) Express gf(x) as a single fraction in its simplest form.

(2)

(c) Solve g(x) = 21

(1)

(Total for Question 21 is 6 marks)

Model Solution	Practice Perfect Questions

22 In triangle OAB, $\overrightarrow{OA} = 6\mathbf{a}$ and $\overrightarrow{OB} = 9\mathbf{b}$.
P is the point on OA such that OP: P A = 1: 2.
Q is the point on AB such that AQ: QB = 2: 1.

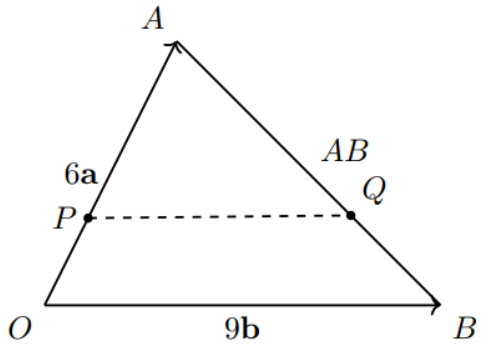


Diagram NOT accurately drawn

(a) Find $\overrightarrow{PQ}$ in terms of a and b.

(2)

(b) Use a vector method to prove that P Q is parallel to OB, and state the ratio of the length of P Q to the length of OB.

(4)

(Total for Question 22 is 6 marks)

Model Solution	Practice Perfect Questions

23 An arithmetic series has first term a and common difference d.
The sum of the first 20 terms is 1155.
The sum of the 5th term and the 15th term is 111

(a) Show that a = 15 and d = 4.5

(b) Find the value of N such that SN = 4110.

(Total for Question 23 is 5 marks)

Model Solution	Practice Perfect Questions

24.

The curve with equation $y = f(x)$ has a single local maximum turning point at $(-2,5)$.
(a) Write down the coordinates of the local minimum turning point of the curve with equation:

$$y = -f(x + 3)$$

(2 marks)

(b) Write down the coordinates of the local maximum turning point of the curve with equation:

$$y = 3f\left(\frac{1}{2}x\right)$$

(2 marks)

Model Solution	Practice Perfect Questions

(Total for Question 24 is 4 marks)

25 An open-topped storage tank has a square base of length x m and vertical height h m.
The total external surface area of the tank is 108 m^2 .

(a) Show that the volume V m^3 of the tank is given by $V = 27x - \frac{1}{4}x^3$

(3)

(b) Find the maximum volume of the tank. Show clear algebraic working

(4)

(Total for Question 25 is 7 marks)

Model Solution	Practice Perfect Questions

TOTAL FOR PAPER = 100 MARKS