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1MA1 Nov 2026 Paper 3 Best Guess Paper

Higher — Target 9

——————————- Disclaimer ——————————-

This practice paper has been crafted through careful analysis of historical exam trends to identify topics highly likely to appear in the Pearson Edexcel 1MA1 Paper 3H. It is specifically designed as a *targeted revision tool for students aiming to secure a Grade 9 on the Higher tier. The questions focus on challenging Higher tier topics, multi step methods and mathematical reasoning needed to support progress towards that target.*

While these topics are highly relevant for targeted revision, there is absolutely no guarantee they will appear on the real exam. Beware of social media claims promising perfect "predicted" papers—these are usually just sales tactics. The most effective preparation strategy remains a comprehensive revision of the entire mathematics specification.

The best way to prepare for the exams is to revise all topics. For fully worked solutions, video walkthroughs, and more free resources, visit www.mygrade9mathstutor.com.

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Walkthrough playlist

The best way to work with this paper is work though it all, watch the Clip. If you get the question incorrect watch the clip again and then try the similar questions from the worksheets

Answer ALL TWENTY questions.
Write your answers in the spaces provided.

You must write down all the stages in your working.

1. (a) Expand and simplify $(x - 4)(x + 7)$.

(2)

(b) Factorise fully $18c^5w^2 + 30cw^3$.

(2)

(c) Solve

$$\frac{7x - 2}{4} = 3x + 1$$

Show clear algebraic working.

(3)

(d) Work out the value of 7^0.

..... (1)

(Total for Question 1 is 8 marks)

Part (a) · Clip / Worksheet	Part (b) · Clip / Worksheet	Part (c) · Clip / Worksheet

2. Here are eight numbers written in order of size:

$$p, \quad 4, \quad 7, \quad 10, \quad q, \quad 15, \quad r, \quad r$$

where p, q, and r are integers.
The median of the eight numbers is **11**
The mode of the eight numbers is **19**
The range of the eight numbers is **16**
Work out the value of p, the value of q and the value of r.

p = ...

q = ...

r = ...

(Total for Question 2 is 3 marks)

Clip	Practice Worksheet

3. 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 3 is 2 marks)

Clip	Practice Worksheet

4. 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 4 is 5 marks)

Clip	Practice Worksheet

5. In a sale, normal prices are reduced by 20%.

The sale price of a coat is £72.

Work out the normal price of the coat.

(Total for Question 5 is 2 marks)

Clip	Worksheet

6. A charity shop sells books, DVDs, and vinyl records.

At the start of the day:

- The ratio of the number of books to the number of DVDs is 5 : 3.
- The ratio of the number of DVDs to the number of records is 4 : 1.

During the day:

- 40% of the books are sold.
- One sixth of the DVDs are sold.
- No records are sold.

At the end of the day, there are 150 items left in total.

Work out how many items were sold altogether during the day.
You must show all your working.

(Total for Question 6 is 5 marks)

Clip	Worksheet

7. (a) Find the value of k when $5^k = 1$.

k = ...

(1)

$\frac{27}{3^8} = 3^m$

(b) Find the value of m.

m = ...

(2)

$(7^{-4})^3 \times 7^5 = 7^p$

(c) Find the value of p.

P = ...

(2)

(Total for Question 7 is 5 marks)

Clip	Practice Worksheet

8. $ABCDEFGHIJK$ is a regular 11-sided polygon.

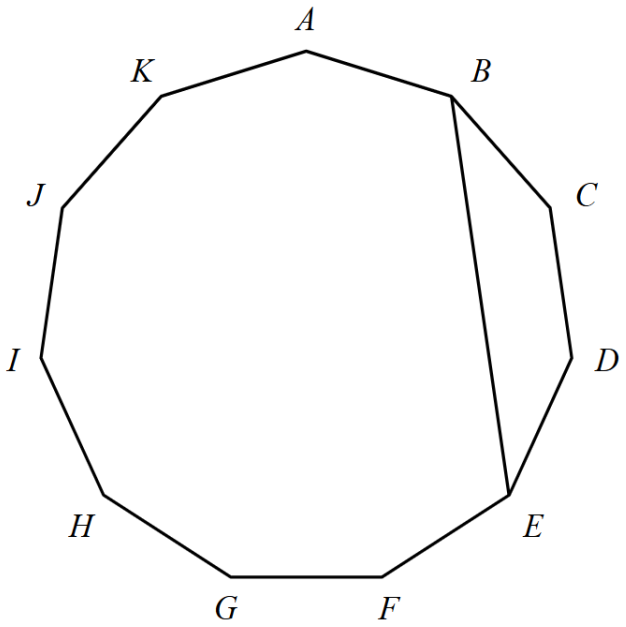


Diagram NOT accurately drawn

The vertices B and E are joined with a straight line.
Work out the size of angle BEF.
Give your answer correct to 1 decimal place.
You must show how you get your answer.

(Total for Question 8 is 4 marks)

Clip	Practice Worksheet

9. There are 5 red counters and 4 blue counters in a bag.

A counter is taken at random, its colour noted, and it is replaced.
A second counter is then taken.

Work out the probability that both counters are the same colour.

(Total for Question 9 is 3 marks)

Clip	Worksheet

10. Sarah recorded the number of emails she received each day for 11 days.

Here are the results in numerical order.

3 5 8 10 11 14 15 18 20 21 25

Find the interquartile range of the number of emails.

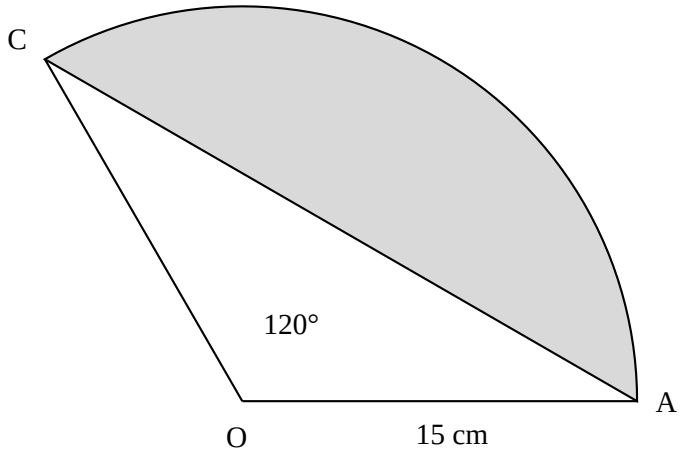
(Total for Question 10 is 3 marks)

Clip	Worksheet

11. The diagram shows a sector $OABC$ of a circle with centre O and radius 15 cm.

The central angle $\angle AOC = 120^\circ$.

Calculate the area of the shaded segment.
Give your answer correct to 3 significant figures.



(Total for Question 11 is 4 marks)

Clip	Worksheet

12. The diagram shows a right pyramid V ABCD with a horizontal square base ABCD of side length 10 cm.

The vertical height V H of the pyramid is 15 cm, where H is the centre of the base ABCD. M is the midpoint of BC.

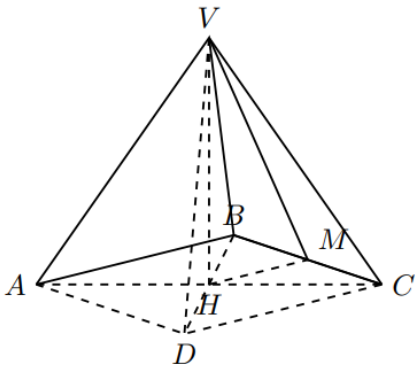


Diagram NOT accurately drawn

(a) Calculate the length of V M. Give your answer correct to 3 significant figures

(b) Calculate the angle between the triangular face V BC and the base plane ABCD. Give your answer correct to 1 decimal place.

(Total for Question 12 is 5 marks)

Clip	Practice Worksheet

13. A 4-digit security code is to be formed using digits chosen from the set

$$\{1, 2, 3, 4, 5, 6, 7, 8\}$$

No digit may be used more than once in any code.
The 4-digit code must be an even number greater than 5000.

Work out the total number of possible codes that can be formed.

(Total for Question 13 is 3 marks)

Clip	Practice Worksheet

14. A solid cone has a base radius of R cm and a vertical height of H cm.

A smaller cone of vertical height h cm is removed from the top of the solid cone to leave a frustum.

The volume of the frustum is $^{19}/_{27}$ of the volume of the original large cone.

The total surface area of the original large cone is 540π cm^2.

Work out the total surface area of the smaller cone that was removed.
Give your answer in terms of π.

(Total for Question 14 is 5 marks)

Clip	Practice Worksheet

15. Solve the inequality

$$3x^2 - 14x - 5 > 0$$

Write your answer using set notation.

(Total for Question 15 is 4 marks)

Clip	Practice Worksheet

16. The incomplete table gives information about the weights, in kilograms, of 160 luggage bags at an airport check-in desk.

Weight (w kg)	**Frequency**
$0 < w \leq 10$	30
$10 < w \leq 15$	a
$15 < w \leq 25$	60
$25 < w \leq 40$	b

On a histogram drawn to represent this data:

- the bar representing the class $0 < w \leq 10$ has a height of 6 cm on the vertical (frequency density) scale.
- the height of the bar for $10 < w \leq 15$ is twice the height of the bar for $25 < w \leq 40$.

(a) Work out the value of a and the value of b. (3)

(b) Write the class interval which contains the median.

(1)

(Total for Question 16 is 4 marks)

Clip

Practice Worksheet

17. Prove algebraically that the difference between the squares of any two consecutive odd numbers is always a multiple of 8.

(Total for Question 17 is 4 marks)

Clip	Practice Worksheet

18. ξ is the universal set of 100 students in a year group.

A and B are two clubs that students can join.

- x^2 students belong to club A only.
- $5x$ students belong to both club A and club B.
- $2x + 10$ students belong to club B only.
- 12 students do not belong to either club.

A student is chosen at random from the year group.
Work out the probability that this student belongs to club A.

(Total for Question 18 is 4 marks)

Clip	Practice Worksheet

19. The variable P is related to variables q and r by the formula

$$P = \frac{kq^3}{\sqrt{r}}$$

where k is a constant.

q is increased by 20%.
r is decreased by 36%.

Work out the percentage increase in the value of P.

(Total for Question 19 is 3 marks)

Clip	Practice Worksheet

20. Elena owns a house.

During 2024, the value of Elena's house increased by x%.
During 2025, the value of Elena's house increased by $2x$%.

Overall, during 2024 and 2025, the value of Elena's house increased by 45.92%.

Work out the value of x.
Show clear algebraic working.

TOTAL FOR PAPER = 80 MARKS

(Total for Question 20 is 4 marks)

Clip	Practice Worksheet