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1MA1 Nov 2026 Paper 2 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 2H. 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. 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 1 is 3 marks)

Clip	Practice Worksheet

2. Fin invests \$5200 in a savings account for 4 years at a compound interest rate of 3.1% per annum.

Work out the total value of Fin's investment at the end of the 4 years.
Give your answer correct to 2 decimal places.

.....

(2)

(Total for Question 2 is 2 marks)

Clip	Practice Worksheet

3. The value of a vehicle depreciates by 12% in its first year and by 15% in its second year. At the end of the second year, the vehicle is worth £11, 220. Calculate the original price of the vehicle.

(Total for Question 3 is 3 marks)

Clip	Practice Worksheet
	

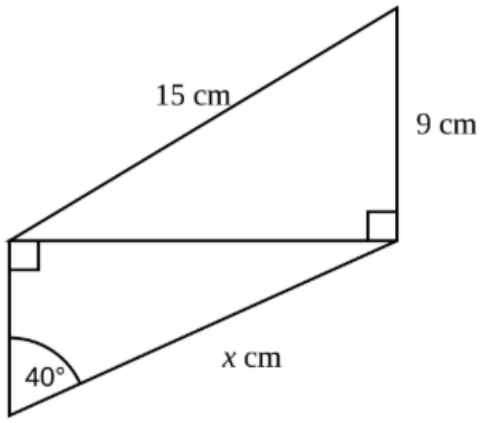
4. A solid metal sphere has radius 2.4 cm.
The mass of the sphere is 385 grams.
Work out the density of the sphere.
Give your answer correct to 3 significant figures.

..... g / cm^3

(Total for Question 4 is 3 marks)

Clip	Practice Worksheet
	

5. Work out the value of x.
Give your answer to 1 decimal place.



(Total for Question 5 is 4 marks)

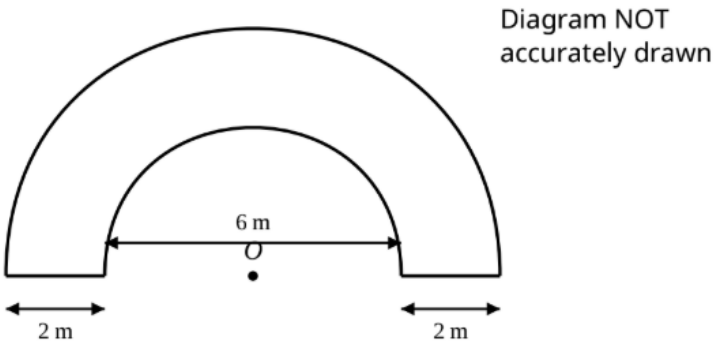
Clip	Practice Worksheet

6.

The diagram shows a plan of a patio.
The edge of the patio consists of two semicircles and two straight lines.
Each semicircle has centre *O*.
The diameter of the large semicircle is 10 m.
The diameter of the small semicircle is 6 m.

Paving Stones
£24 per m^2

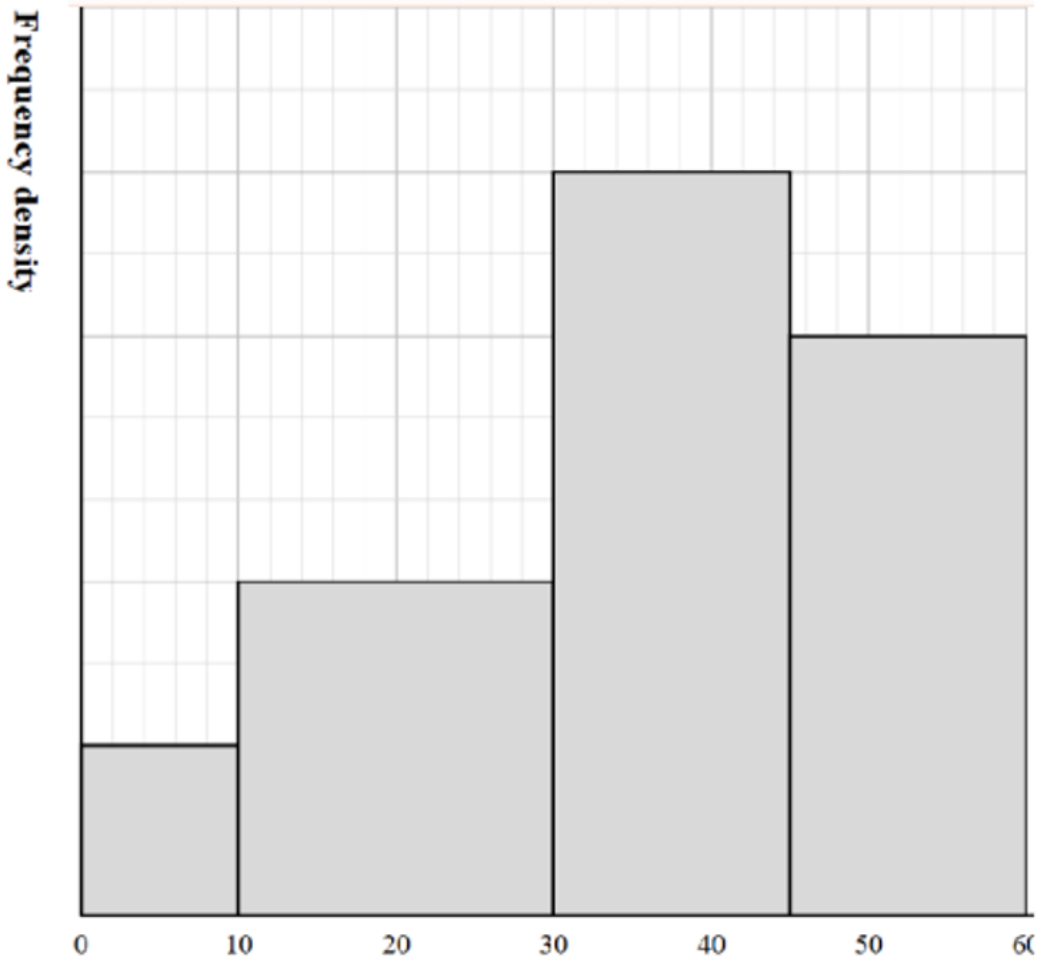
Jo is going to cover the patio with paving stones.
Jo has a budget of £1200.
Has Jo got enough money to buy all the paving stones she needs?
You must show all your working.



(Total for Question 6 is 5 marks)

Clip	Practice Worksheet

7. The histogram gives information about the weights, in grams, of some strawberries.



One of these strawberries is chosen at random. Work out an estimate for the probability that the strawberry has a weight between 25 grams and 50 grams.

.....

(Total for Question 7 is 4 marks)

Clip	Practice Worksheet

8. Here are the first five terms of a quadratic sequence.

2 7 14 23 34

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

(Total for Question 8 is 3 marks)

Clip	Practice Worksheet

9. (a) On the grid, draw the graph of $y = -2x + 4$ for values of x from -2 to 3.

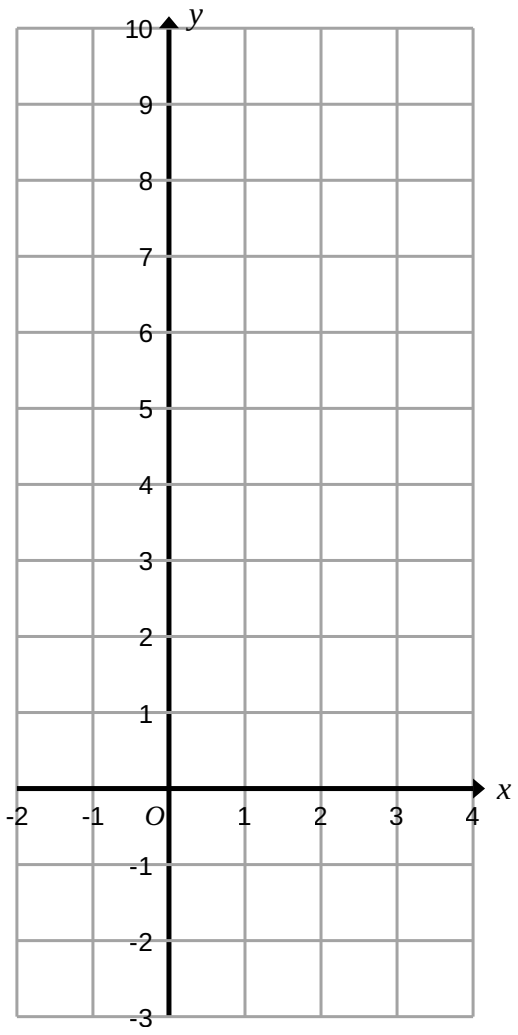
(3)

(b) Show, by shading on the grid, the region that satisfies **all three** of the inequalities:

$x \geq 0$ $y \geq -1$ $y \leq -2x + 4$

Label the region **R**.

(2)



(Total for Question 9 is 5 marks)

Clip	Practice Worksheet

10. The functions f and g are defined such that:

$$f(x) = \frac{3x - 5}{2}$$
$$g(x) = 2x^2 + 1$$

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

(2 marks)

(b) Work out the value of $gf(3)$.

(Total for Question 10 is 4 marks)

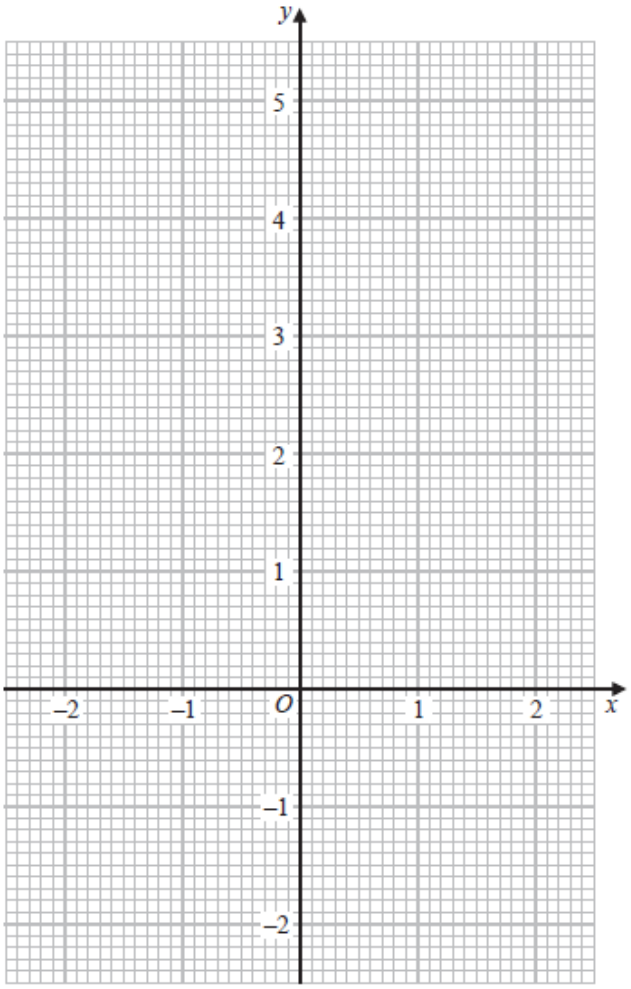
Clip	Practice Worksheet

11. (a) Complete the table of values for $y = x^3 - 3x + 1$

x	−2	−1	−0.5	0	0.5	1	1.5	2
y		3	2.4			−1	−0.1	

(2)

(*b*) On the grid, draw the graph of $y = x^3 - 3x + 1$ for values of x from –2 to 2



(2)

(c) By drawing a suitable straight line on the grid, estimate all three solutions of $x^3 - 3x - 1 = 0$.

Give your answers correct to one decimal place.

(2)

(Total for Question 11 is 6 marks)

Clip	Practice Worksheet

12. The acceleration a m/s^2 of an object is calculated using the formula:

$$a = \frac{2(s - ut)}{t^2}$$

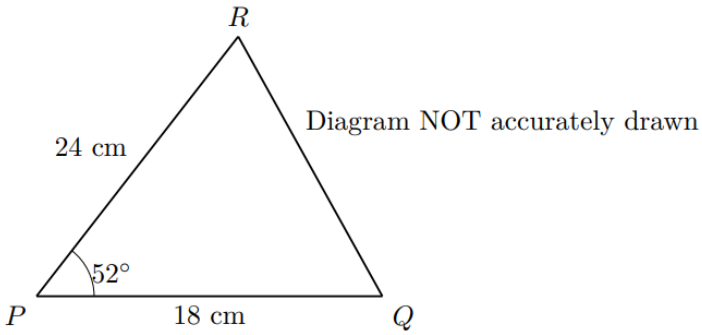
where s = 150, u = 12, and t = 4.0 (all given correct to 1 decimal place). By considering bounds, work out the upper bound for the value of a to a suitable degree of accuracy. Show your working clearly.

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(Total for Question 12 is 4 marks)

Clip	Practice Worksheet

13. The diagram shows triangle P QR with P Q = 18 cm, P R = 24 cm, and ∠QP R = 52◦



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

(3)

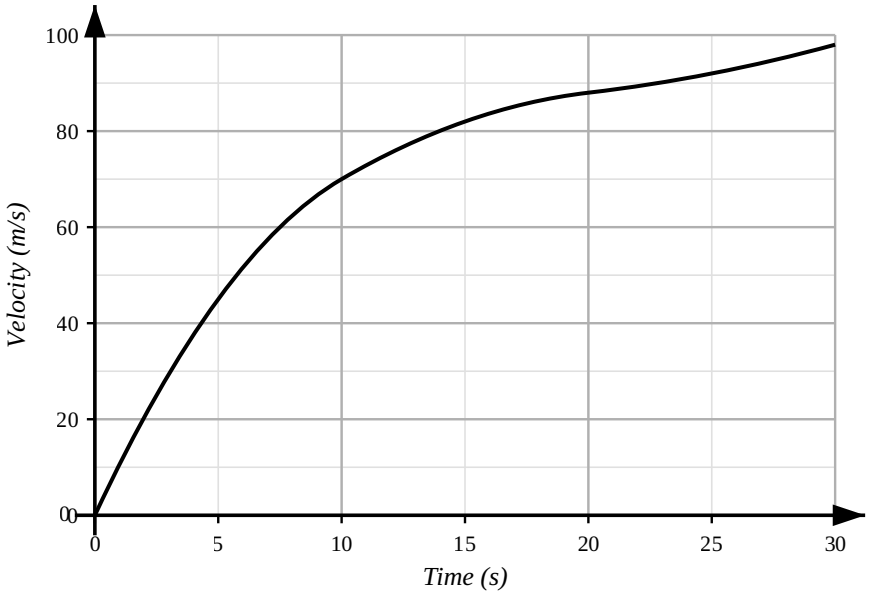
(b) Calculate the area of triangle P QR. Give your answer correct to 3 significant figures.

(2)

(Total for Question 13 is 5 marks)

Clip	Area	Practice Worksheet

14. Here is a velocity-time graph for a rocket.



Work out an estimate for the distance the rocket travelled in the first 30 seconds.
Use 3 strips of equal width.

(Total for Question 14 is 3 marks)

Clip	Practice Worksheet

15. At the start of year n, the number of animals in a population is P_n.

At the start of the following year, the number of animals in the population is P_{n+1} where

$$\boldsymbol{P_{n+1} = kP_n}$$

At the start of 2018 the number of animals in the population was 5000.

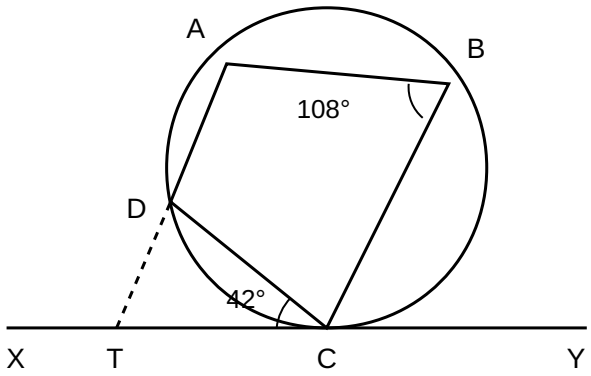
At the start of 2020 the number of animals in the population was 4050.

Find the value of the constant k.

(Total for Question 15 is 3 marks)

Clip	Practice Worksheet

16. 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 *DCT* = 42° and Angle *ABC* = 108°.

Calculate the size of Angle *ATC*.
You must give a formal geometrical reason for each stage of your working.

(Total for Question 16 is 3 marks)

Clip	Practice Worksheet

17. The point P has coordinates (0, 0).
The point Q has coordinates (16, -2).
The point R has coordinates (k, k + 2).

Angle PRQ is a right angle.
Find all possible values of k.
You must show all your working.

(Total for Question 17 is 5 marks)

Clip	Practice Worksheet

18. A box contains n counters. 8 of the counters are red and the rest are blue.
Two counters are taken at random from the box without replacement.
Given that the probability that both counters are the same colour is $\frac{7}{15}$

(a) Show that $n^2 - 31n + 240 = 0$.

(3)

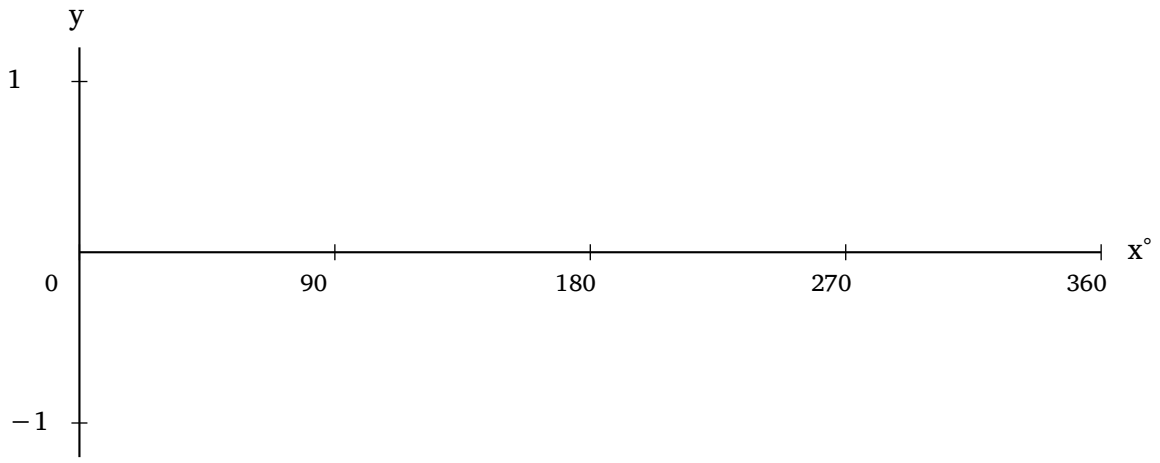
(b) Solve $n^2 - 31n + 240 = 0$ to find the possible values of n.

(2)

(Total for Question 18 is 5 marks)

Clip	Practice Worksheet

19. (a) Sketch the graph of $y = \cos x^\circ$ for $0 \leq x \leq 360$.



(2)

(b) Solve $2 \cos x^\circ = 1$ for $0 \leq x \leq 360$.

(2)

(Total for Question 19 is 4 marks)

Clip	Practice Worksheet

20. 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.

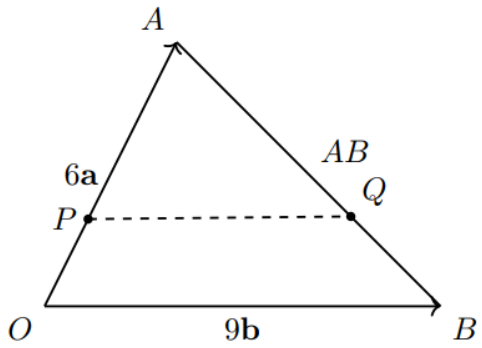


Diagram NOT accurately drawn

(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 20 is 6 marks)

Clip	Practice Worksheet