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1MA1 Nov 2026 Paper 3 Best Guess Paper

———————————- Disclaimer ———————————-

This paper has been created based on topics from previous years and careful analysis of what topics are highly likely to appear in paper 3H. The paper should be excellent at helping students revise for exams. This paper is specifically targeted at students aiming for a Grade 5, so it intentionally avoids some of the grade 7 to 9 real exam paper. The topics from this paper may well appear in the real exams, however there is absolutely no guarantee of this. There are deliberately more questions at a higher grade than you would expect.
Despite what you might see on social media it is not possible to "predict" the paper perfectly. This is usually what people say when they are selling you something...

The best way to prepare for the exams is to revise all topics
You can find a link to this paper and more completely free resources at www.mygrade9mathstutor.com

If you find this paper help please support me, by buying me a coffee

The Playlist for Solutions can be found

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 plane has a length of 78 metres.

A scale model is made of the plane.
The scale of the model is 1: 200

Work out the length of the scale model.
Give your answer in centimetres.

..... cm

(Total for Question 1 is 3 marks)

Model Solution	Practice Perfect Questions

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)

Model Solution	Practice Perfect Questions

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)

Model Solution	Practice Perfect Questions

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)

Model Solution	Practice Perfect Questions

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

.....

(2)

Model Solution	Practice Perfect Questions

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

.....

(2)

Model Solution	Practice Perfect Questions

(c) Solve

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

Show clear algebraic working.

(3)

Model Solution	Practice Perfect Questions

(Total for Question 5 is 7 marks)

6. Point B is on a bearing of 075° from point A. Work out the bearing of A from B.

(Total for Question 6 is 2 marks)

Model Solution	Practice Perfect Questions

7 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 7 is 3 marks)

Model Solution	Practice Perfect Questions

8 A train travels 135 km in 1 hour and 30 minutes. Work out the average speed of the train in m/s.

(Total for Question 8 is 3 marks)

Model Solution	Practice Perfect Questions

9. A bag contains only blue counters, yellow counters, black counters, and orange counters.

The table gives each of the probabilities that, when a counter is taken at random from the bag, the counter will be black or the counter will be orange.

Counter	Blue	Yellow	Black	Orange
Probability			0.15	0.45

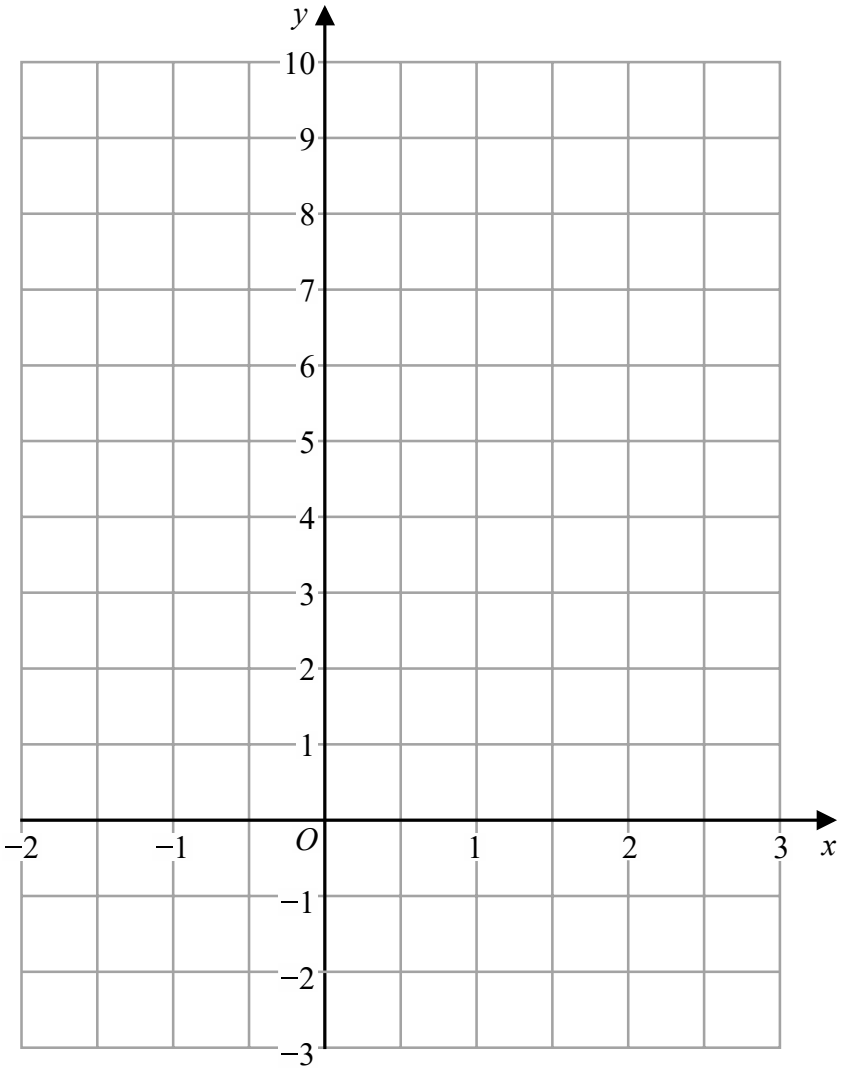
The ratio of the number of blue counters to the number of yellow counters is 3 : 5.
There are 54 orange counters in the bag.
Work out the number of blue counters in the bag.

(4)

(Total for Question 9 is 4 marks)

Model Solution	Practice Perfect Questions

10. 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

$x \geqslant 0$ $y \geqslant -1$ $y \leqslant -2x+4$

Label the region **R**.

(2)

(Total for Question 10 is 5 marks)

Model Solution	Practice Perfect Questions

11. (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 11 is 5 marks)

Model Solution	Practice Perfect Questions

12. 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 12 is 4 marks)

Model Solution	Practice Perfect Questions

13 $ABCDEFGHIJK$ is a regular 11-sided polygon.

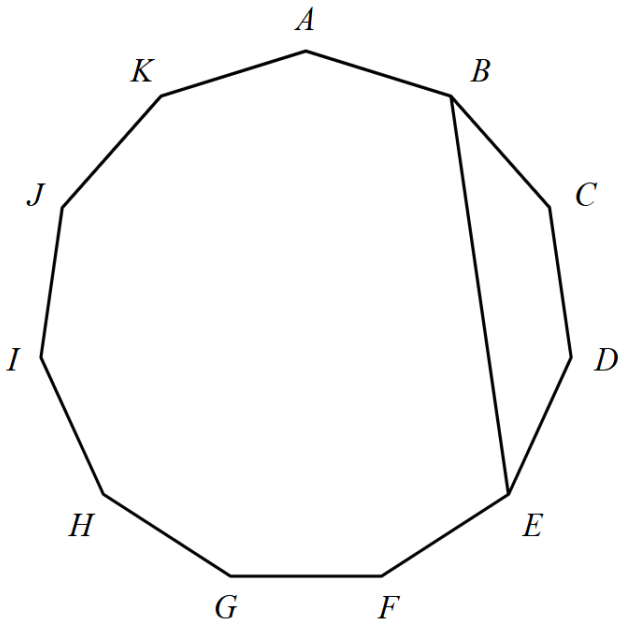


Diagram NOT
accurately drawn

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 13 is 4 marks)

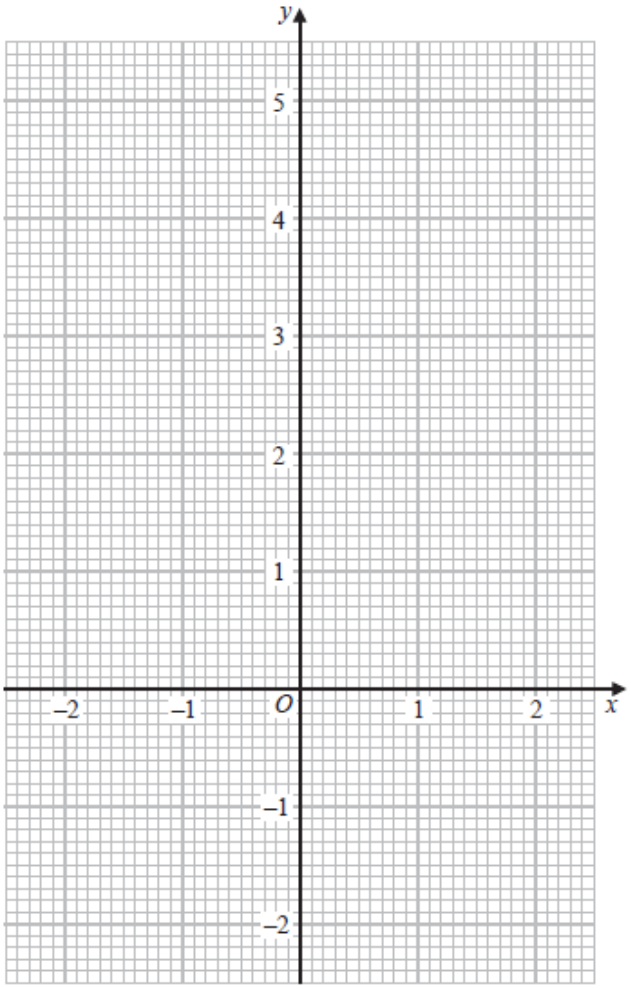
Model Solution	Practice Perfect Questions

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

x	–2	–1	–0.5	0		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, use your graph to find an estimate for the solution of $x^3 - 3x - 1 = 0$
Give your answer correct to one decimal place.

(2)

Model Solution	Practice Perfect Questions

(Total for Question 14 is 6 marks)

15. The straight line $\mathbf{L}_1$ has the equation $3y - 2x = 12$.
The straight line $\mathbf{L}_2$ is parallel to $\mathbf{L}_1$ and passes through the point $(0,5)$.
Find the equation of $\mathbf{L}_2$.
Give your answer in the form $y = mx + c$.

.....

(Total for Question 15 is 3 marks)

Model Solution	Practice Perfect Questions

16. 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 16 is 4 marks)

Model Solution	Practice Perfect Questions

17. 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.

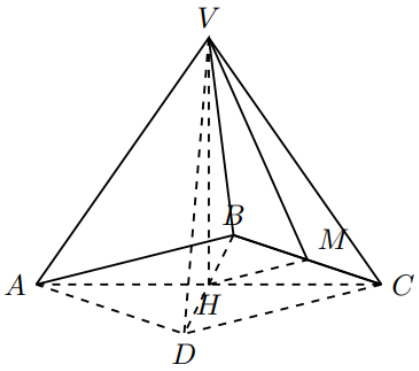


Diagram NOT accurately drawn

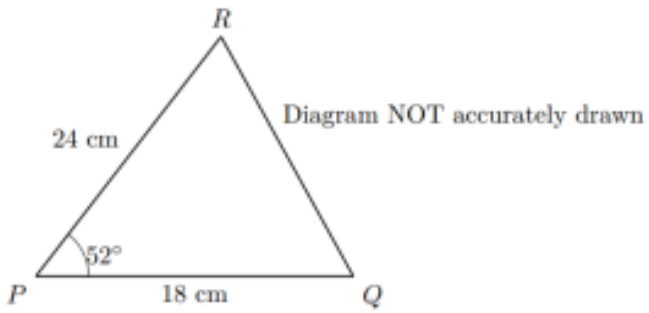
(a) Calculate the length of V M. Give your answer correct to 3 significant figures

(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 17 is 5 marks)

Model Solution	Practice Perfect Questions

18. 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)

Model Solution	Practice Perfect Questions

(b) Calcula triangle P QR. Give your answ significant figures

(2)

Model Solution	Practice Perfect Questions

19. (a) Express $f(x) = 2x^2 - 12x + 23$ in the form $a(x + b)^2 + c$, where a, b, and c are integers to be found.

(3)

(b) Hence, write down the coordinates of the turning point on the curve with equation $y = 2x^2 - 12x + 23$.

.....

(1)

(Total for Question 19 is 4 marks)

Model Solution	Practice Perfect Questions

Paper continues with Question 20

20. 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 20 is 3 marks)

Clip	Practice Worksheet

TOTAL FOR PAPER = 80 MARKS