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4MA1 Nov 2026 Paper 2 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 2H. The paper should be excellent at helping students revise for exams. This paper is specifically targeted at high-attaining students aiming for a Grade 9, so it is intentionally more rigorous and challenging than a standard 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 THREE questions.
Write your answers in the spaces provided.

You must write down all the stages in your working.

1. 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 1 is 3 marks)

Model Solution	Practice Perfect Questions

2 Change a speed of 90 kilometres per hour to a speed in metres per second.
Show your working clearly.

..... m/s

(Total for Question 2 is 3 marks)

Model Solution	Practice Perfect Questions
	

3 (a) Simplify $(2p^3)^5$

.....

(2)

Model Solution	Practice Perfect Questions

(b) Expand and simplify $2p(4p - 3) - p(p - 4)$

.....

(2)

Model Solution	Practice Perfect Questions

(c) Solve $\frac{3x-2}{4} = 5 - x$.
Show clear algebraic working

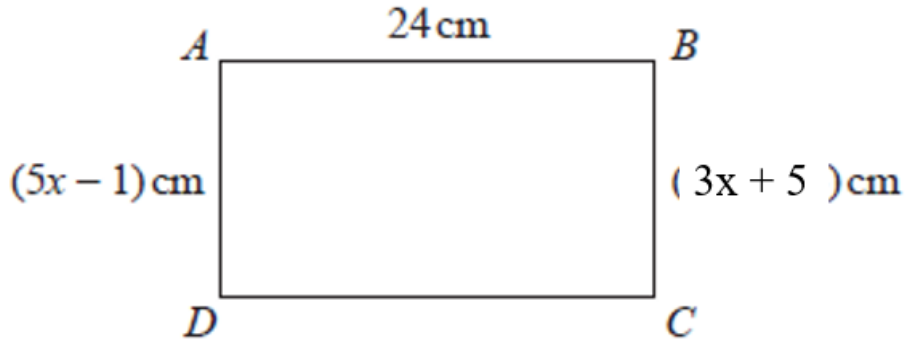
$x =$ .....

(3)

Model Solution	Practice Perfect Questions

(Total for Question 3 is 7 marks)

4. The diagram shows rectangle *ABCD*



Work out the Area of the rectangle.
Show your working clearly.

..... cm^2

(Total for Question 4 is 4 marks)

Model Solution	Practice Perfect Questions

5. John plants 720 bulbs in a garden.
He plants tulip bulbs, crocus bulbs and daffodil bulbs so that

number of tulip bulbs : number of crocus bulbs : number of daffodil bulbs $= 7 : 3 : 2$

- 40% of the tulip bulbs are for yellow flowers.
- $\frac{2}{3}$ of the crocus bulbs are for yellow flowers.
- $\frac{3}{4}$ of the daffodil bulbs are for yellow flowers.

Work out the total number of bulbs that are for yellow flowers.

.....

(Total for Question 5 is 5 marks)

Model Solution	Practice Perfect Questions

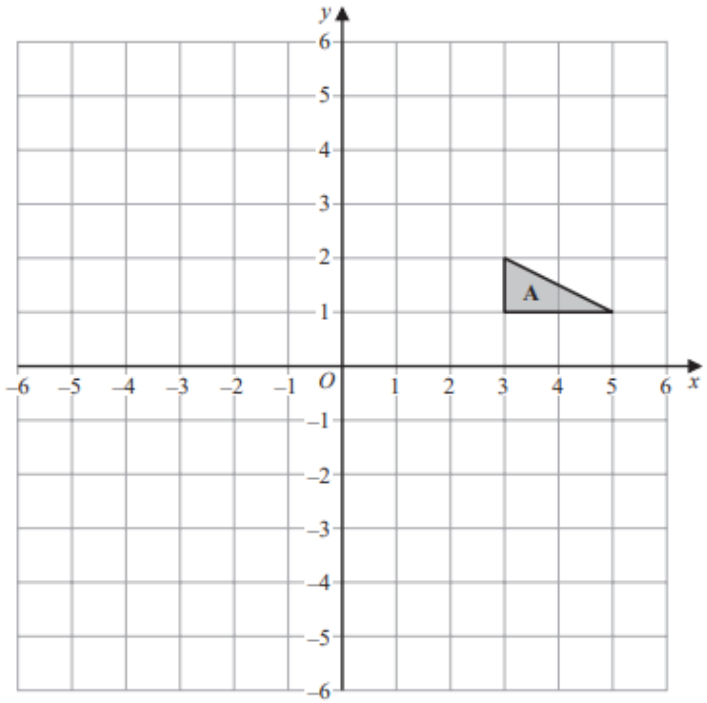
6. Mark manages a sports shop.
In October, he sold 600 pairs of running shoes.
In November, he sold 432 pairs of running shoes.
Work out the percentage decrease in the number of pairs of running shoes sold from October to November.

.....%

(Total for Question 6 is 3 marks)

Model Solution	Practice Perfect Questions

7



(a) Rotate triangle **A** 90° anticlockwise about the origin $(0,0)$.
Label the image **C**.

(2)

Model Solution	Practice Perfect Questions

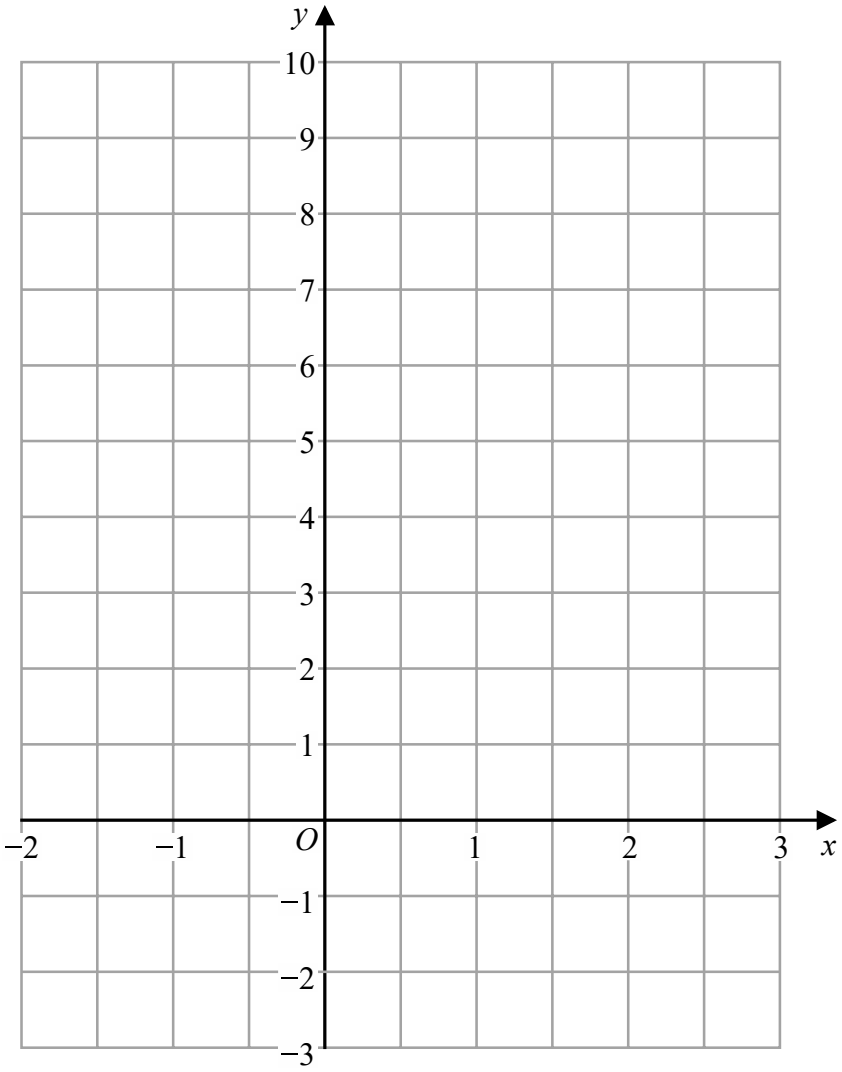
(b) Enlarge triangle **A** by scale factor -2 with centre $(3,0)$.
Label the image **B**.

(3)

(Total for Question 7 is 5 marks)

Model Solution	Practice Perfect Questions

8. 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 8 is 5 marks)

Model Solution	Practice Perfect Questions

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

Weekly wage (£x)	Cumulative 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.

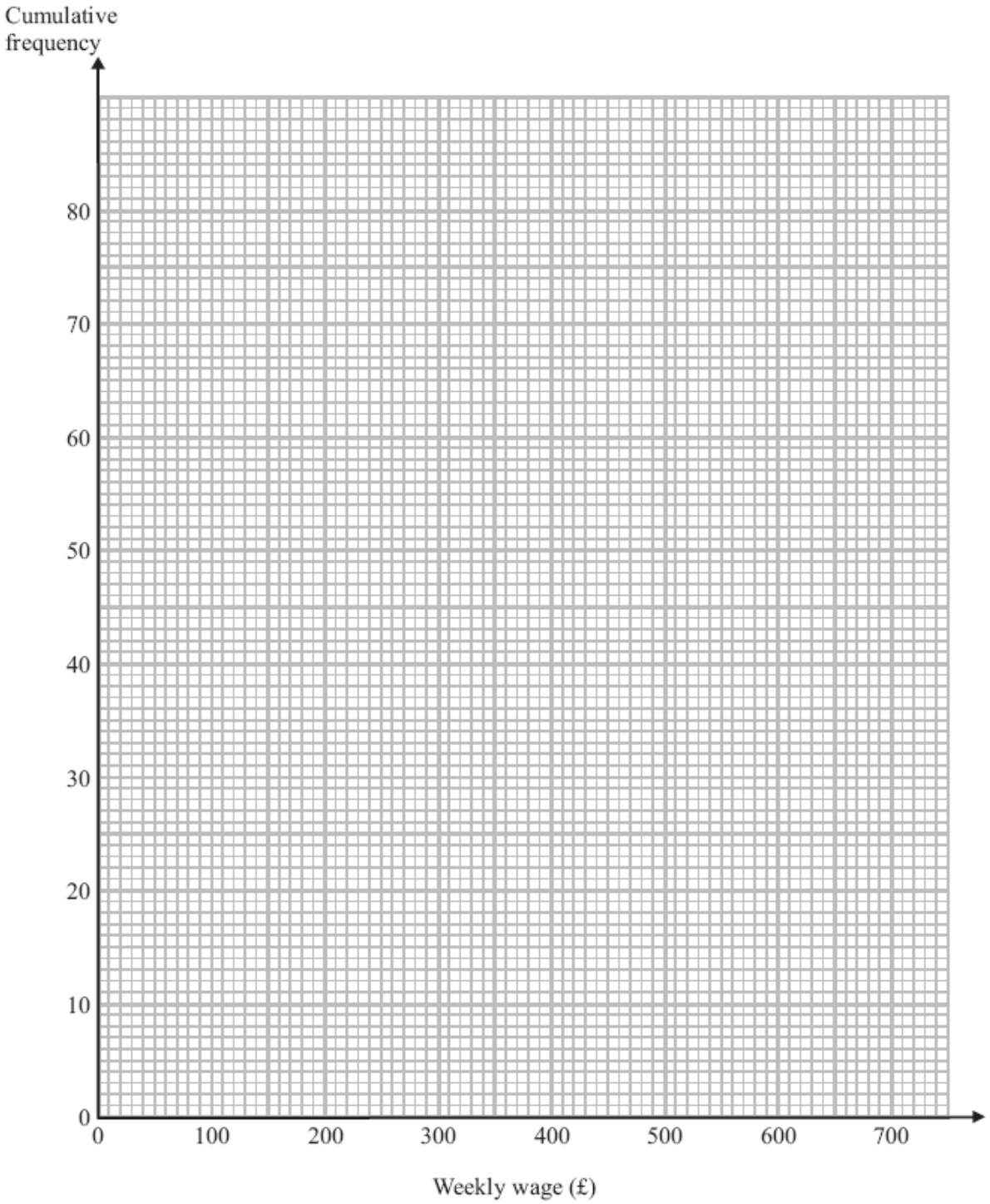
£ .....

(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 9 is 8 marks)

Model Solution	Practice Perfect Questions

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

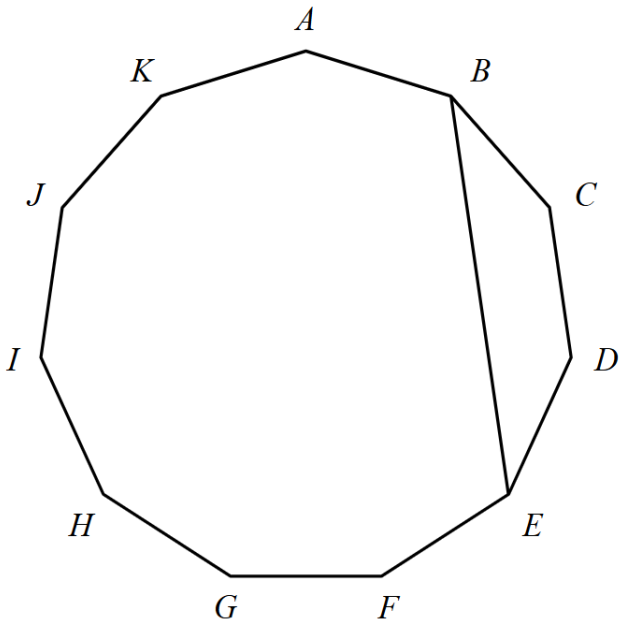


Diagram NOT
accurately drawn

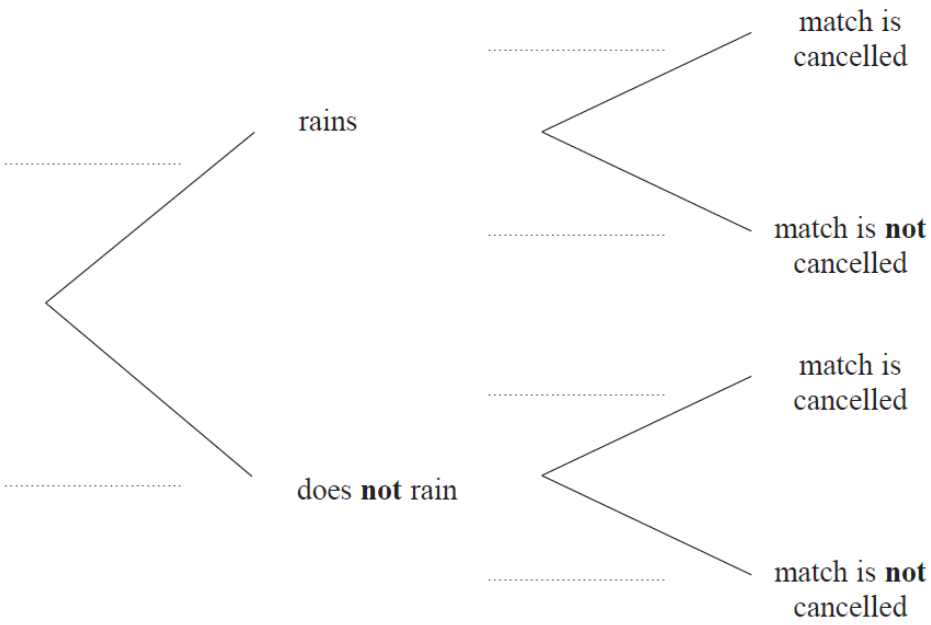
The vertices B and E are joined with a straight line.
Work out the size of angle BEF.
Give your answer correct to 1 decimal place.
You must show how you get your answer.

(Total for Question 10 is 4 marks)

Model Solution	Practice Perfect Questions

11. The probability that it will rain on a day in August is 0.35.
When it rains, the probability that my cricket match is cancelled is 0.8.
When it does not rain, the probability that my cricket match is not cancelled is 0.9.

(*a*) Complete the probability tree diagram for this information.



(2)

(b) Work out the probability that, on a day in August, my cricket match is cancelled.

(3)

(Total for Question 11 is 5 marks)

Model Solution	Practice Perfect Questions

12. A ship leaves a port A and sails 15 km on a bearing of $045°$ to a buoy B.
From B, the ship sails 20 km on a bearing of $135°$ to a lighthouse C.
Calculate the bearing of C from A.
Give your answer correct to 1 decimal place.

(Total for Question 12 is 4 marks)

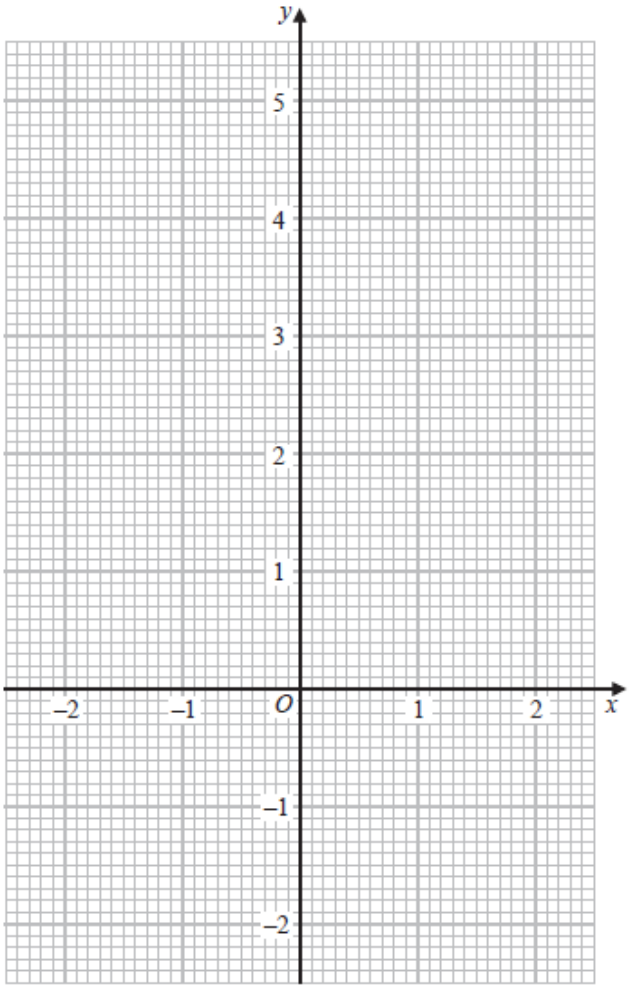
Model Solution	Practice Perfect Questions

13. *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 13 is 6 marks)

14. Solve $16^x \times 8 = 32^{x-1}$

.....

(Total for Question 14 is 3 marks)

Model Solution	Practice Perfect Questions

15. A curve has equation $y = x^3 - 2x^2 - 4x + 7$

Find the equation of the tangent to the curve at the point where $x = 3$

Give your answer in the form $y = mx + c$

.....

(Total for Question 15 is 3 marks)

Model Solution	Practice Perfect Questions

16. Simplify fully

$$\left(\frac{64x^9}{27y^6}\right)^{-\frac{2}{3}}$$

.....

(Total for Question 16 is 3 marks)

Model Solution	Practice Perfect Questions

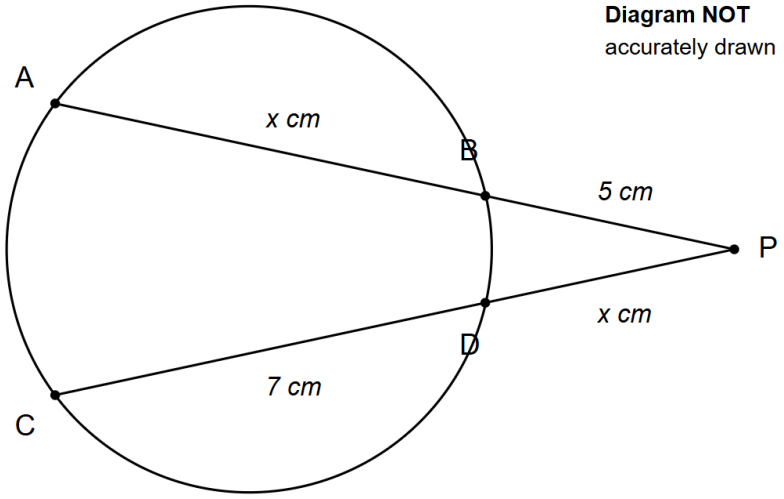
17. Prove algebraically that the sum of the squares of any two consecutive odd integers is always 2 more than a multiple of 8.

.....

(Total for Question 17 is 4 marks)

Model Solution	Practice Perfect Questions

18. A, B, C and D are points on a circle.

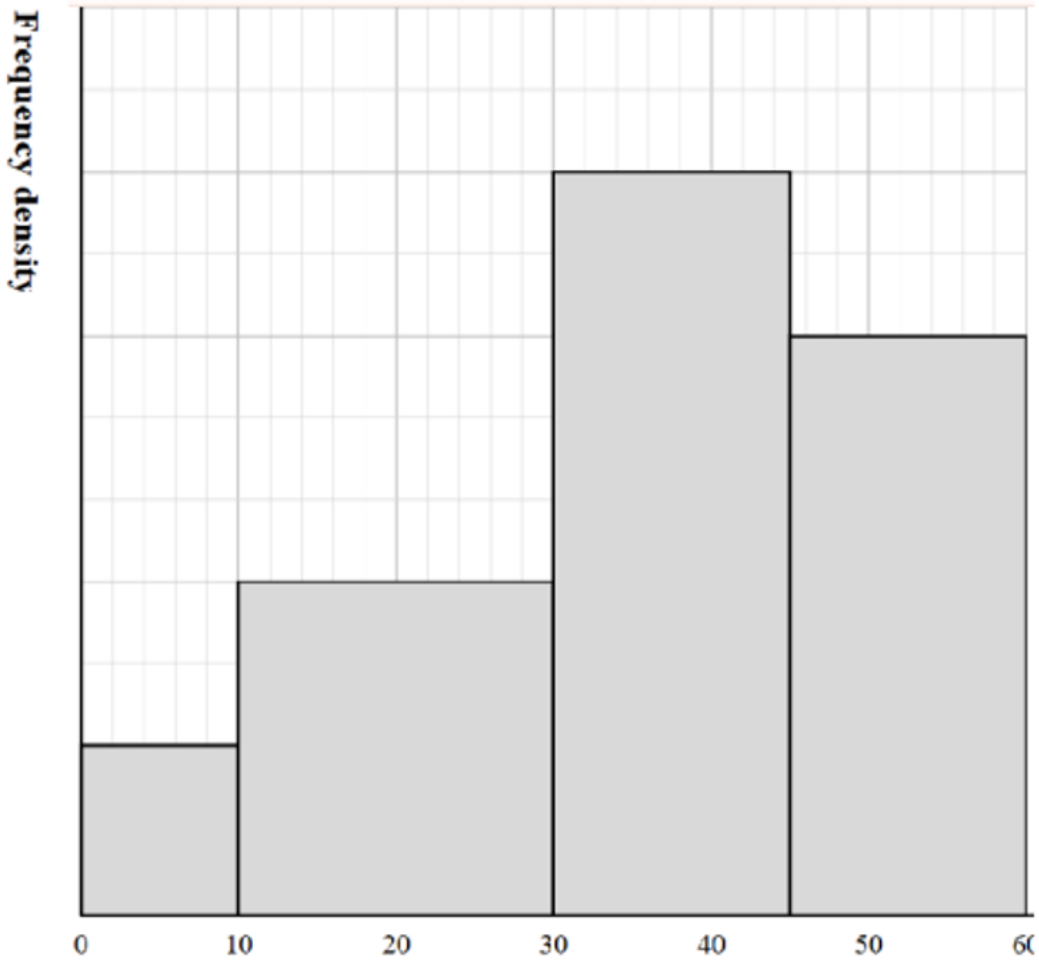


The chord AB and the chord CD are extended to intersect at the point P outside the circle.
$AB = x$ cm and $BP = 5$ cm.
$CD = 7$ cm and $DP = x$ cm.
Calculate the length of the chord AB.
Give your answer correct to 3 significant figures.
Show your working clearly.

(Total for Question 18 is 4 marks)

Model Solution	Practice Perfect Questions

19. 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 19 is 4 marks)

Model Solution	Practice Perfect Questions

20 Solid **A** and solid **B** are mathematically similar.
The total surface area of solid **A** is 45π cm^2.
The total surface area of solid **B** is 80π cm^2.
The volume of solid **A** is 810 cm^3.
Calculate the volume of solid **B**.
.

.....

(Total for Question 20 is 4 marks)

Model Solution	Practice Perfect Questions

21. (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 21 is 4 marks)

Model Solution	Practice Perfect Questions

22. The circle C has equation $x^2 + y^2 = 65$.
The point $A(4, -7)$ lies on the circle C.
Find the equation of the tangent to the circle at the point A.
Give your answer in the form $ax + by + c = 0$, where a, b, and c are integers.

.....

(Total for Question 22 is 4 marks)

Model Solution	Practice Perfect Questions

23. A particle P moves along a straight line.
The displacement, s metres, of P from a fixed point O at time t seconds is given by

$$s = t^3 - 12t^2 + 45t$$

Find the total distance travelled by the particle in the first 7 seconds of its motion.

(Total for Question 23 is 5 marks)

Model Solution	Practice Perfect Questions

TOTAL FOR PAPER = 100 MARKS