



Class
Maths

Video Solutions



PRACTICE PAPER FOR

AQA Paper 2H (June 2024)

----- Disclaimer -----

This paper has been created based on the **most common** paper 2/3 topics from previous years and also careful analysis of what topics have already appeared in paper 1. The paper should be excellent at helping students revise for exams, however should not be relied upon as the basis for revision. The topics from this paper may well appear in the real exams, however there is absolutely no guarantee of this. Some topics may appear, some may not. Anybody giving you any sort of guarantee is misleading you. If any topics or questions from this paper do come up, this is just lucky guessing and nothing more. 😊

Ultimately the best way to prepare for the exams is to **revise all topics**.

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Answer **all** questions in the spaces provided.

Do not write
outside the
box

1 Factorise $5xy + 3yz$ [1 mark]

Answer _____

2 A coin is thrown 50 times.
7 of the throws land on heads.
Write down the relative frequency of heads. [1 mark]

Answer _____

3 A shape has a volume of 5 m^3
Write down the volume of the shape in cm^3 [1 mark]

Answer _____ cm^3

4 Write down the lowest common multiple of x^3 and x^5 [1 mark]

Answer _____





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5 A linear sequence starts
-8 -3 2 7

5 (a) Work out an expression for the n th term of the sequence. [2 marks]

Answer _____

5 (b) Write down the first term of the sequence that is a 6-digit number. [1 mark]

Answer _____

6 In 2024 Fiona's house was worth £250,000
Fiona assumes house prices will increase by 2% each year for the next 3 years.
Using her assumption, work out how much Fiona's house would be worth in 2027. [3 marks]

Answer £ _____

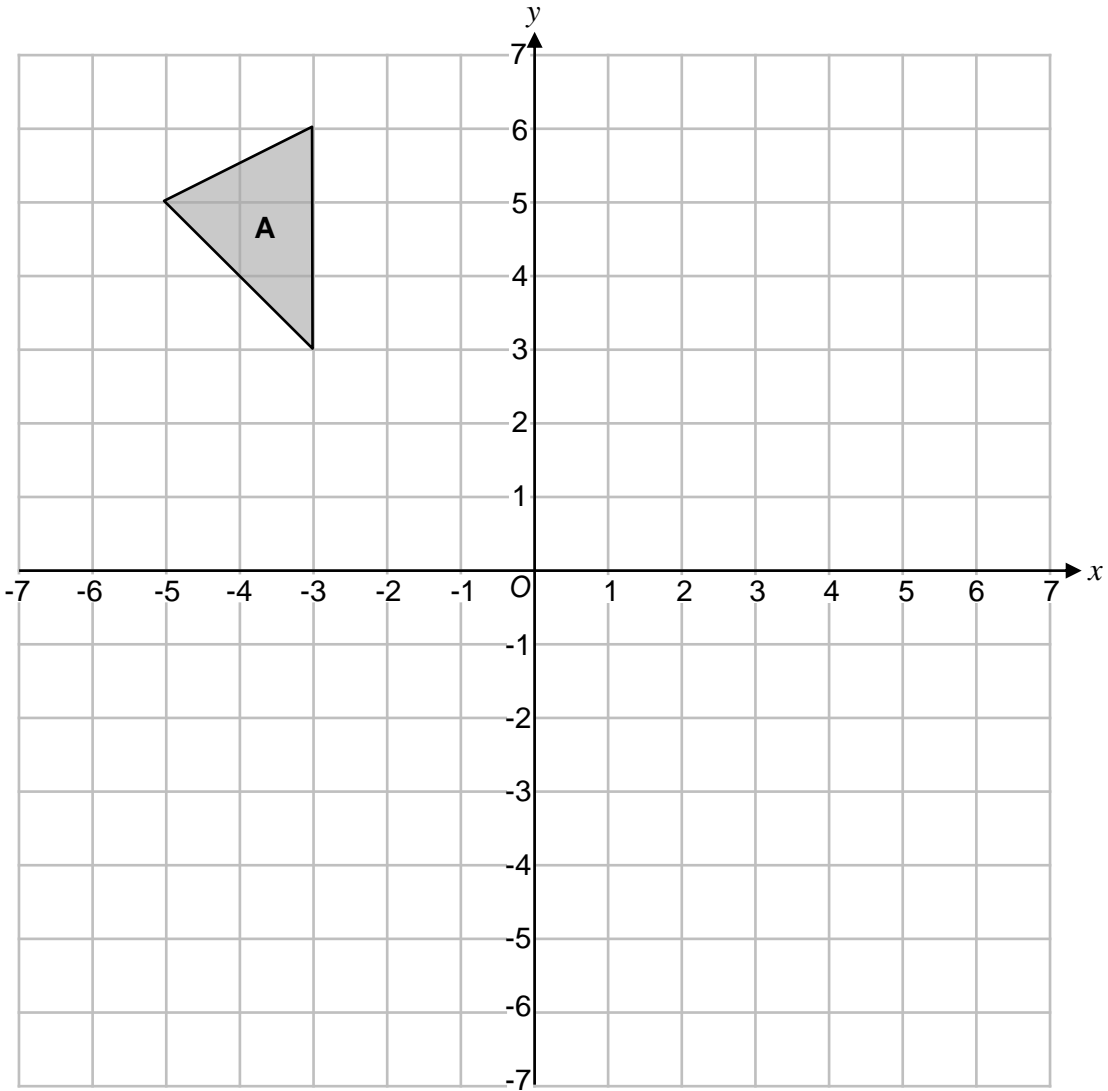
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7 Triangle **A** is rotated 90° clockwise about the point $(-1, -1)$ to give Triangle **B**.

Triangle **A** is reflected in the line $x = -1$ to give Triangle **C**.



Describe fully the **single** transformation that maps Triangle **B** onto Triangle **C**.
[4 marks]





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8 The table shows information about the speeds of some cars on a road.

Speed, s (mph)	Frequency		
$30 < s \leq 40$	1		
$40 < s \leq 50$	14		
$50 < s \leq 60$	37		
$60 < s \leq 70$	48		

Work out an estimate for the mean speed of the cars. [3 marks]

Answer _____ mph

9 Work out $\frac{1.9 \times 10^{600}}{7.6 \times 10^{25}}$

Give your answer in standard form. [3 marks]

Answer _____

$\frac{\quad}{10}$

Turn over ►





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10

M is the smallest square number that is greater than 5000

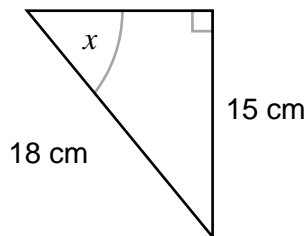
N is the smallest cube number that is greater than 5000

Show that $N - M$ is equal to the product of two prime numbers.

[4 marks]

11

Use trigonometry to work out the size of angle x .



Not drawn
accurately

[3 marks]

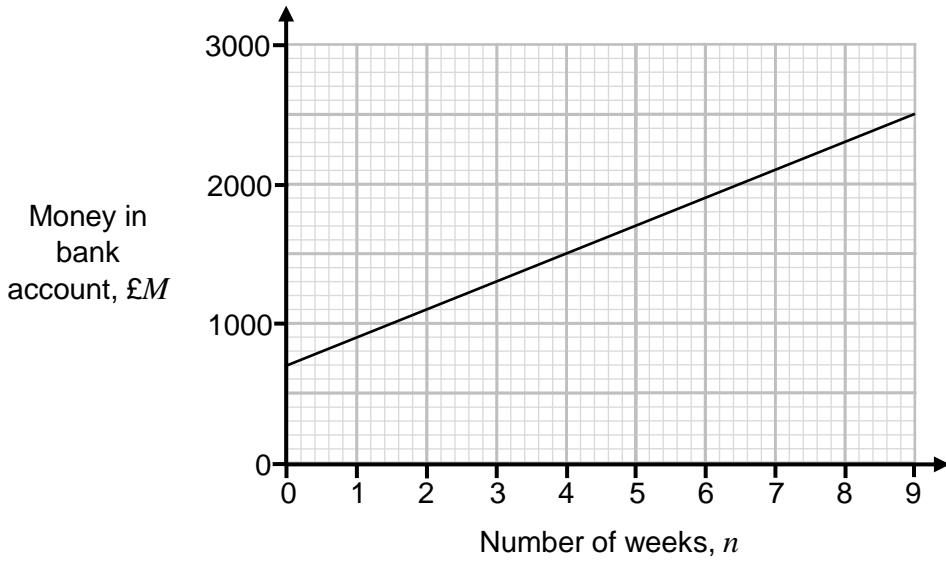
Answer _____ °





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12 The graph shows the amount of money in a bank account over a 9-week period.



Work out a formula for M in terms of n .

[3 marks]

Answer _____

13 There are n students in a class.

Two students from the class are going to be selected to play a game.

Write down an expression, in terms of n , for the number of ways that the two students could be selected.

[2 marks]

Answer _____

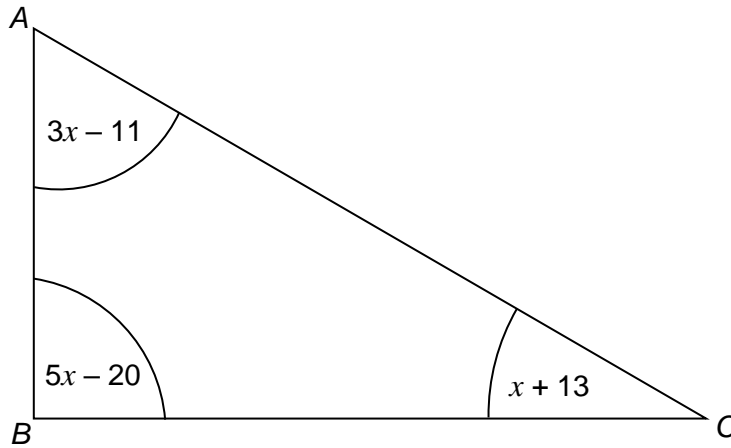
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14 Here is triangle ABC .



Show clearly that triangle ABC is a right-angled triangle.

[4 marks]





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15 Annabelle runs two laps of an athletics track.

She runs her first lap at a constant speed.

She runs her second lap at a constant speed that is 25% greater than the speed for her first lap.

What effect does the 25% increase in speed have on Annabelle's time taken to run the second lap compared to the first lap?

Tick **one** box.

The time is reduced by less than 25%

The time is reduced by exactly 25%

The time is reduced by more than 25%

Show working to support your answer.

[2 marks]

16 A graph has equation $y = 2x + 3$

The graph is translated by the vector $\begin{pmatrix} 0 \\ -4 \end{pmatrix}$

Write down the equation of the new graph.

[1 mark]

Answer _____

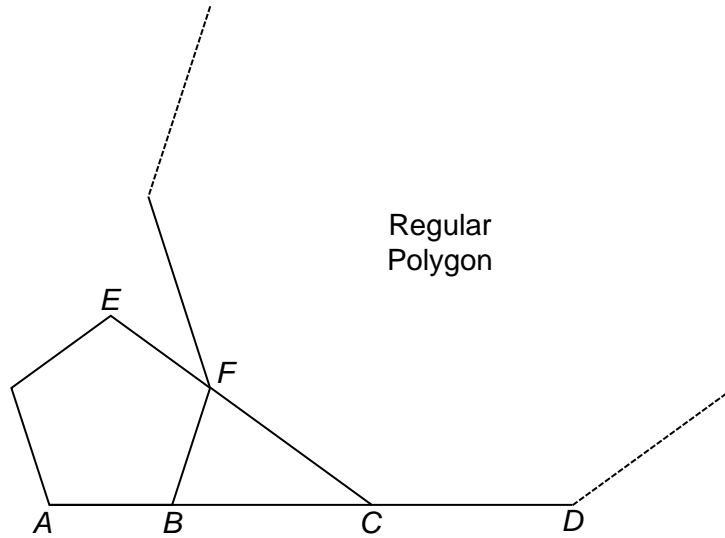
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17

The diagram shows a regular pentagon, a triangle and a regular polygon.



Regular
Polygon

$ABCD$ and EFC are straight lines.

Show clearly that the regular polygon is a decagon.

[4 marks]





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18

Town A is due South of Town B.
The bearing of Town B from Town C is 100°

Town A and Town C are both the same distance away from Town B.

Work out the bearing of Town C from Town A.

[3 marks]

Answer _____ °

$\frac{\quad}{7}$

Turn over ►





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19 Here is some information about similar solids X and Y.

	Height	Surface Area	Volume
X	6 cm	240 cm ²	
Y	7.2 cm		432 cm ³

Complete the table

[3 marks]

20 Solve $\frac{x+1}{4} - \frac{x-2}{6} = 3$

[3 marks]

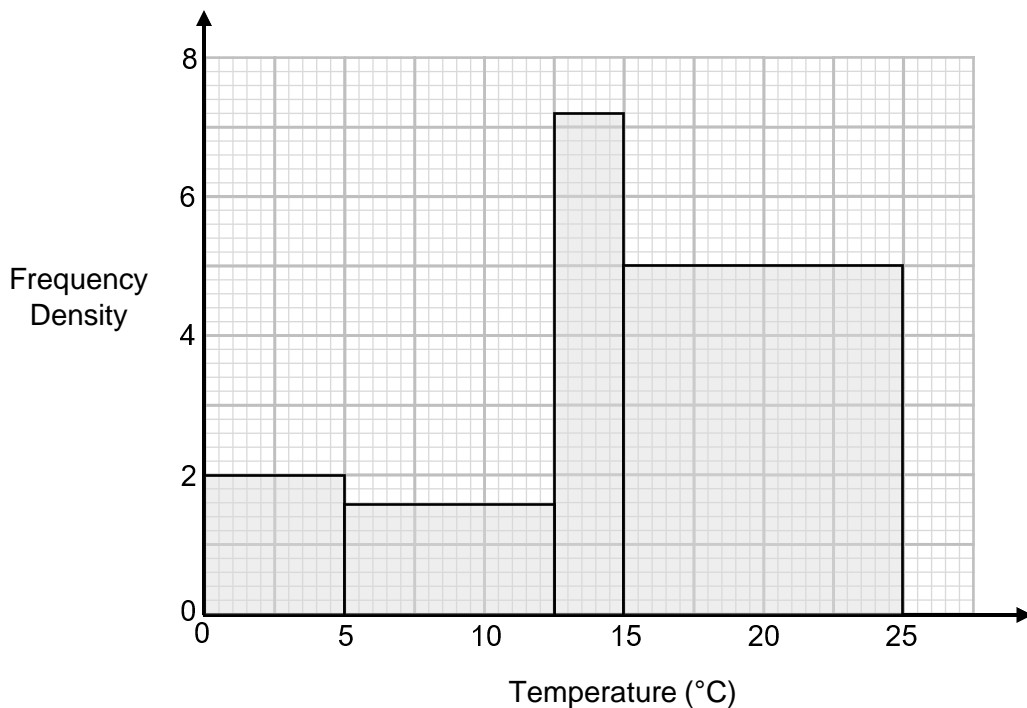
Answer _____





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21 The histogram shows information about the temperatures in a city for 90 days.



Work out an estimate for the median temperature.

[3 marks]

Answer _____ °C

$\frac{\quad}{9}$

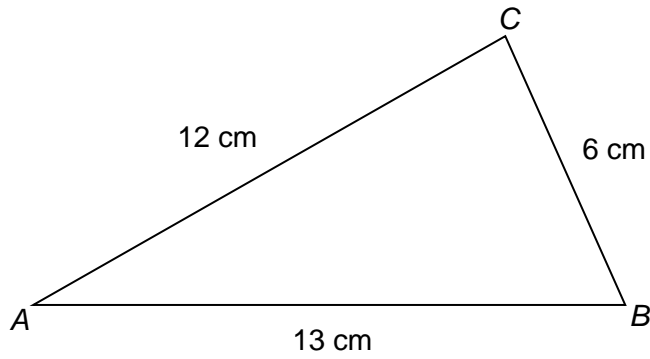
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22



Work out the area of triangle ABC.

[4 marks]

Answer _____ cm²





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23 $y : 8 = 9 : x^2$

23 (a) Work out an equation for y in terms of x . [2 marks]

Answer _____

23 (b) Work out the value of y when $x = \frac{3}{4}$ [2 marks]

Answer _____

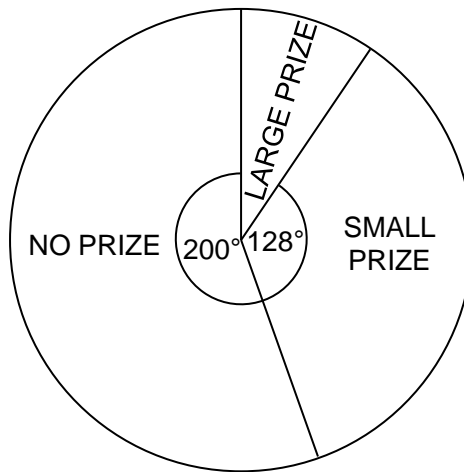
$\frac{\quad}{8}$

Turn over ►



24

Here is a spinner for a game at a fairground.



Players spin the spinner and receive either a large prize, a small prize or no prize.

Maisie plays the game three times.

Work out the probability that Maisie wins at least two large prizes.

[4 marks]

Answer _____





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25

$f(x) = x^2 - 6$

$g(x) = 5 - x$

Solve $fg(x) < gf(x)$

[5 marks]

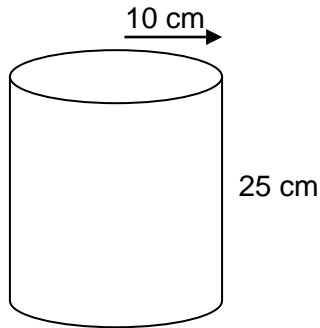
Answer _____

9





26 A container is in the shape of a cylinder.



The radius of the cylinder is 10 cm (to the nearest centimetre).
The height of the cylinder is 25 cm (to the nearest centimetre).

Liquid fills the cylinder at a constant rate.
The constant rate = 0.4 litres per minute (to the nearest 100 ml).

$$1 \text{ cm}^3 = 1 \text{ ml}$$

Show that it must take more than one quarter of an hour to fill the container.

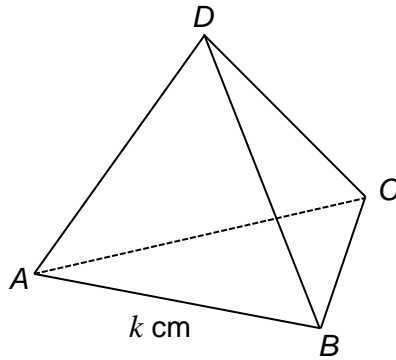
[5 marks]





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27 Four congruent, equilateral triangles form pyramid $ABCD$.



$AB = k \text{ cm}$

Find an expression, in terms of k , for the surface area of the pyramid. **[3 marks]**

Answer _____ cm^2

$\frac{\quad}{8}$

END OF QUESTIONS

