Candidate surname	Other names

Maths Planner

AQA

2024 Practice Paper

Mathematics

PAPER 3 (Calculator)

Foundation Tier

Time 1 hour 30 minutes

Caution: These topics are not guaranteed to show up, please focus on all topic areas. They have been selected using analysis on previous official exam papers.

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Total Marks

84

Q	Topic(s)	Marks
1	Place Value	/ 1
2	Simplfying Ratio	/ 1
3	Factors, Multiples & Primes	/ 1
4	Percentages of Amounts	/ 2
5	Inequalities	/ 3
6	Solving Linear Equations / Substitution	/ 3
7	Angles in Trangles / Angle Names	/ 3
8	Algebraic Expressions	/ 2
9	Bank Statements	/ 3
10	Names of Shapes	/ 3
11	Square, Cubes & Triangular Numbers	/ 3
12	Ratio as Fractions & Percentages	/ 2
13	Time Calculations	/ 3
14	Frequency Trees	/ 4
15	Bar Charts	/ 5

Q	Topic(s)	Marks
16	Pie Charts	/ 3
17	Probability / Sharing a Ratio	/ 3
18	Direct Proportion	/ 3
19	Scale Drawings / Bearings	/ 4
20	Calculating with Speed	/ 5
21	Circles	/ 3
22	Mass, Density & Volume	/ 3
23	Percentage Change	/ 3
24	Pythagorus	/ 3
25	HCF / LCM	/ 3
26	Laws of Indices / Factorising	/ 7
27	Probability Trees	/ 5

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Student Warning

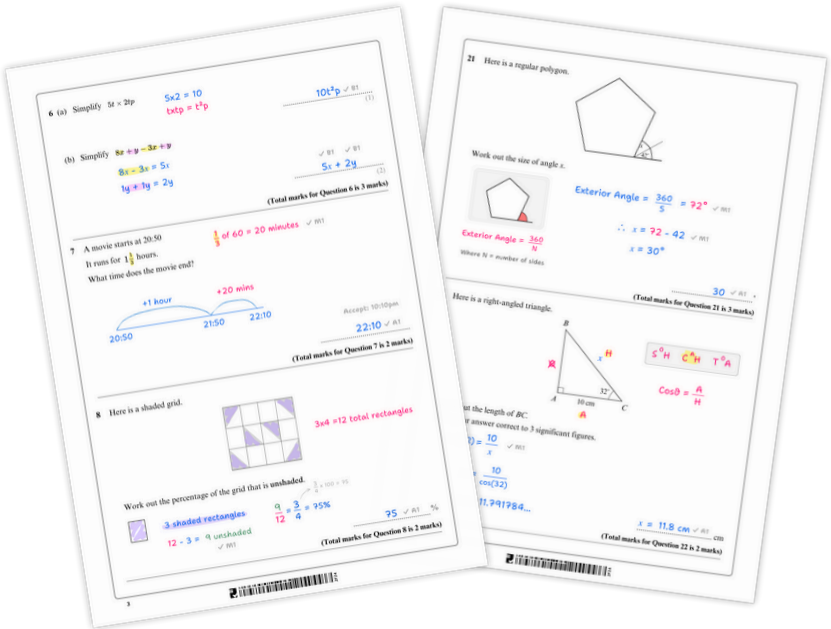
The questions in this paper will not be in the exam

These topics are **not guaranteed** to show up in your Paper 2 exam. Please make sure to revise **all topic areas**, especially since topics covered in Paper 1 can still come up.

These questions have been selected using analysis on previous official exam papers.

Worked Solutions

SCAN ME



Answers all questions in the spaces provided.

Do not write outside the box

1 Write down the value of the 7 in 3740

[1 mark]

Answer _____

2 Simplify 18 : 81

[1 mark]

Answer _____

3 List all the factors of 36

[1 mark]

_____

_____

Answer _____

4 Find 65% of 48

[2 marks]

_____

_____

Answer _____

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Do not write outside the box

5 Complete these statements with one of the following symbols **= ≥ ≤ > <**

[3 marks]

– 3 ☐ – 4

50 ÷ 8 ☐ 6.31

$(-5)^2$ ☐ 25

6 (a) Solve $\frac{x}{4} = 5$

[1 mark]

Answer x = _____

6 (b) If $y = 7$

Work out the value of $y^3 - 2y$

[2 marks]

Answer _____

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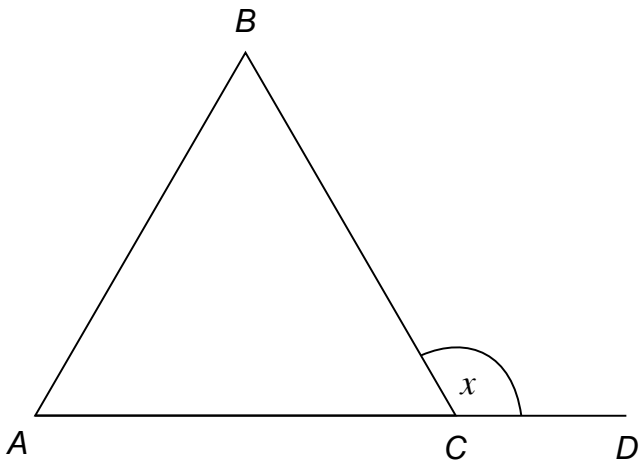
7 Triangle *ABC* is equilateral.

ACD is a straight line.



7 (a) Write down the value of x.

[2 marks]

Answer _____ °

7 (b) Write down the mathematical name that describes angle x

[1 mark]

Answer _____

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8 (a) Simplify $x \times x \times x$ **[1 mark]**

Answer _____

8 (b) Expand $2(3x - 11)$ **[1 mark]**

_____

Answer _____

9 Complete the bank statement. **[3 marks]**

Date	Description	Credit (£)	Debit (£)	Balance (£)
01.06.23	Starting Balance			_____
04.06.23	Flight tickets		650.00	8695.32
06.06.23	Salary	_____		12875.58
10.06.23	Credit card payment		_____	10640.58

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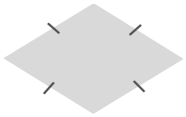
10 Complete the names of these quadrilaterals.

[3 marks]

Shape	Name
	.....
	.....
	.....

11 Match the numbers to the correct description.

[3 marks]

Prime	9
Square	15
Cube	2
Triangular	120
	104
	125

Do not write outside the box

12 In a classroom, the ratio of boys to girls is 3 : 5

12 (a) Write the fraction of students who are boys.

[1 mark]

Answer _____

In the same classroom

the ratio of students who prefer science to those who prefer art is 7 : 3

12 (b) Write the percentage of students who prefer art.

[1 mark]

_____

_____

Answer _____ %

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13 Here is a train timetable.

Bristol	08:10	08:45	08:52
Taunton	08:44	09:17	
Exeter	09:15	09:42	
Newton Abbot	09:33		09:58
Plymouth	10:11	10:37	10:26

13 (a) What time does the 09:17 Taunton train arrive at Exeter? **[1 mark]**

Answer _____

13 (b) How long is the 08:52 train from Bristol to Plymouth?
Give your answer in minutes. **[2 marks]**

_____

_____

_____

Answer _____ minutes

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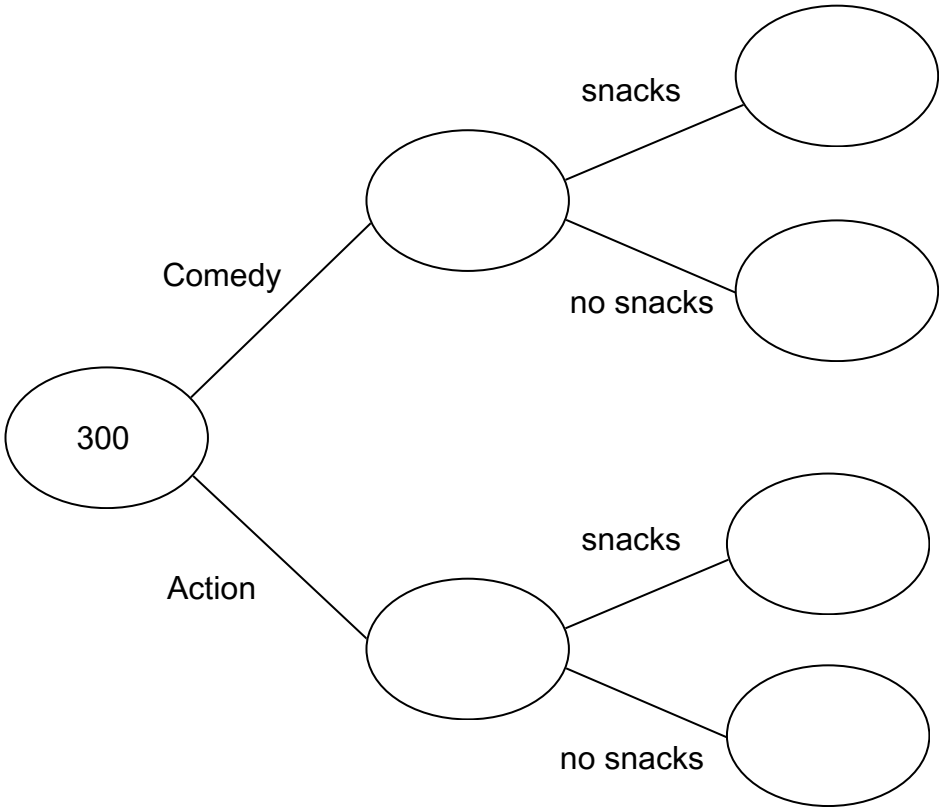
14 300 people attended the cinema to watch a comedy or action movie.
25% watched a comedy movie.
Of the people who watched an action movie, three-fifths had snacks.
168 people had snacks in total.

14 (a) Use this information to complete the frequency tree diagram below.

[3 marks]



14 (b) One of the people is chosen at random.
Write down the probability that they watched a comedy movie with no snacks.

[1 mark]

Answer _____

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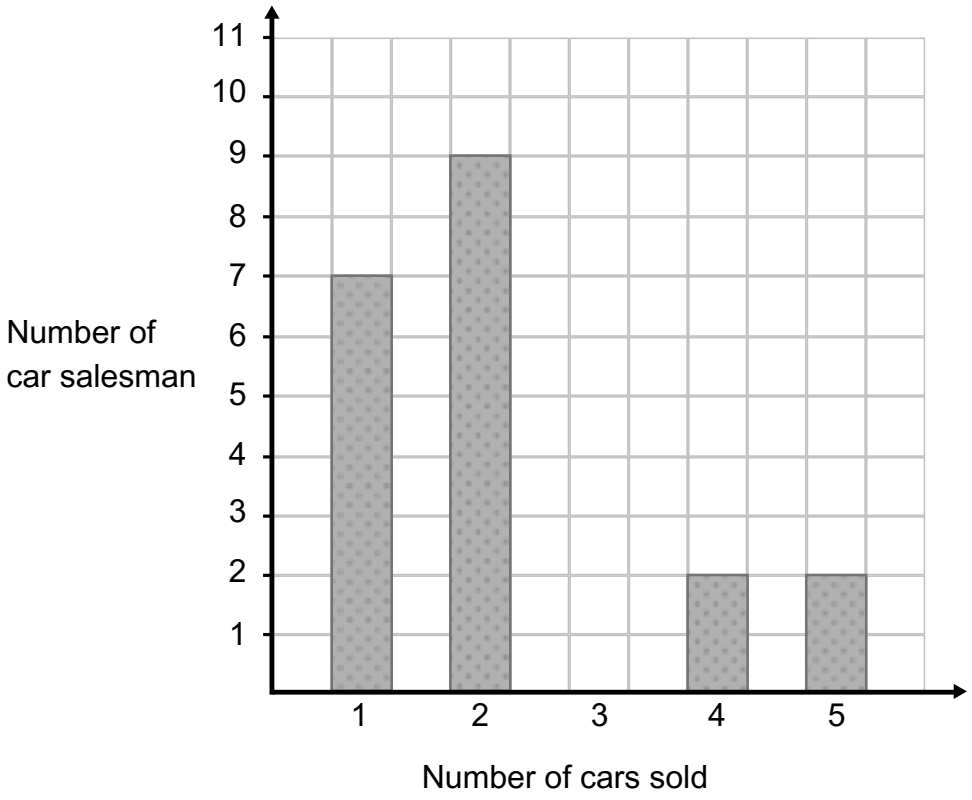
15 The bar chart shows information about the sales performance of a team of 25 car salesman in a 7 day period.



15 (a) Complete the bar chart. **[1 mark]**

15 (b) Write down the modal number of cars sold. **[1 mark]**

Answer _____

15 (c) Work out the mean number of cars sold by the sales team. **[3 marks]**

_____

_____

_____

Answer _____

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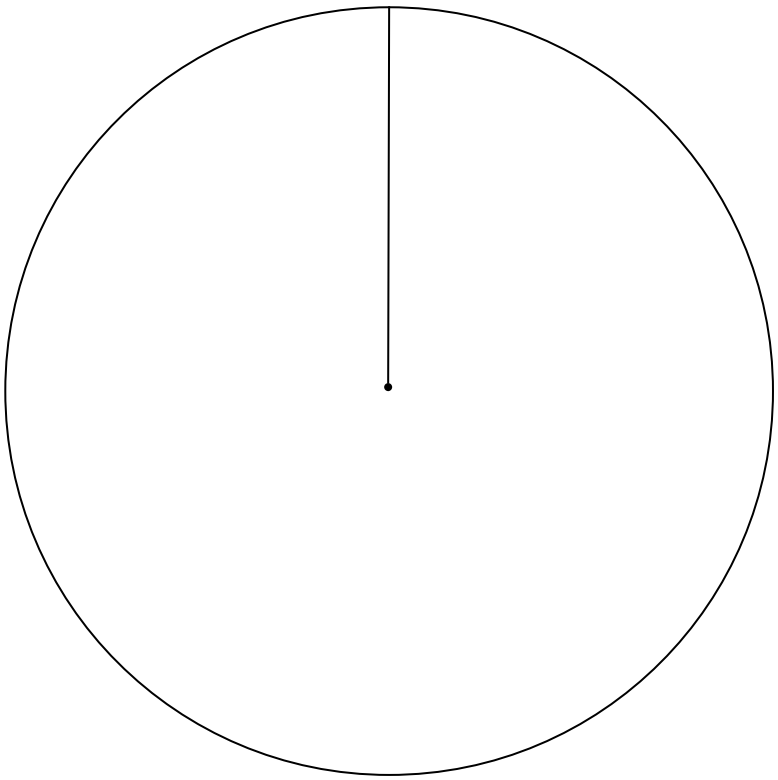
16 The table shows the favourite fruits of a group of 90 students.

Fruit	Frequency	
Apple	15	
Banana	18	
Orange	22	
Strawberry	35	

Draw an accurate pie chart to represent this information. **[3 marks]**



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17 There are sour sweets in a bag.
The table shows information about their colour.

Colour	Red	Blue	Green	Yellow
Frequency	5	3		

25% of the bag are red sweets.

The ratio

green sweets : yellow sweets is 3 : 1

A sweet is selected at random from the bag.

Work out the probability of the sweet being green.

[3 marks]

Answer _____

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18 Here is the recipe to make 16 chocolate brownies.

16 Brownies

4 eggs
0.125kg butter
250g sugar
0.5kg chocolate

Work out how much of each ingredient needed to make 12 brownies.
Give your answers in grams.

[3 marks]

eggs _____

butter _____ g

sugar _____ g

chocolate _____ g

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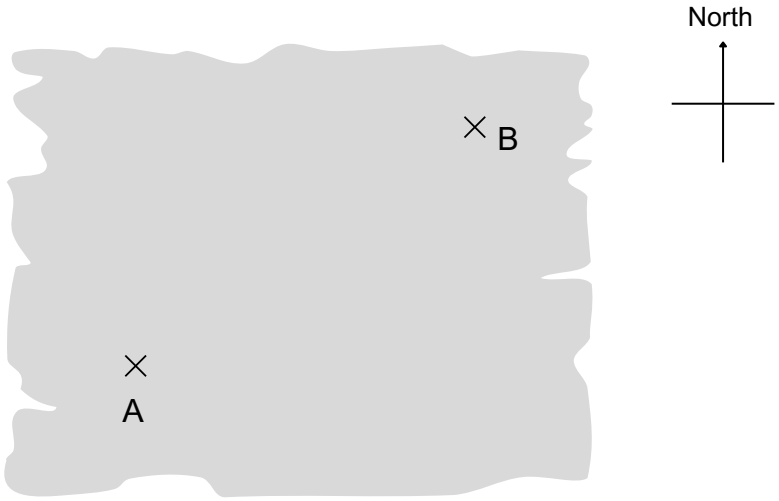
19 Town A and B are shown on a scale map.



Scale 1 : 200,000

19 (a) Work out the real distance between Town A and B.
Give your answer in metres. **[2 marks]**

Answer _____ m

19 (b) Work out the bearing of Town B from A. **[2 marks]**

Answer _____ °

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Do not write outside the box

20 Car A travels a distance of 150 km.
The time taken for the journey is 120 minutes.

20 (a) Work out the average speed that car A travelled.

[2 marks]

Answer _____ km/h

Car B travels the same journey.
The time taken for car B was 20% faster than car A.

20 (b) Work out the average speed that car B travelled.

[3 marks]

Answer _____ km/h

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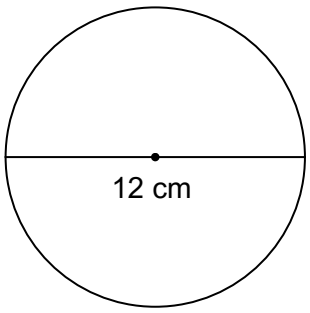
Do not write outside the box

21 Here is a circle.



Not drawn accurately

Work out the the ratio

circle area : circle circumference.

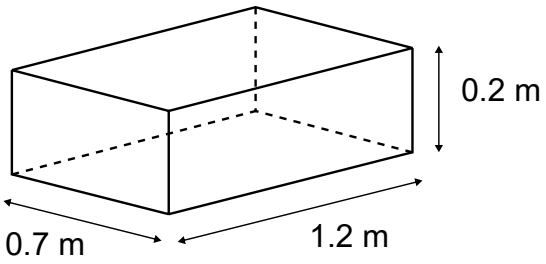
Give your answer in its simplest form.

[3 marks]

Answer _____

Do not write outside the box

22 Here is a steel cuboid.



The cuboid has a mass of 35kg.

Work out the density of the cuboid, in kilograms per cubic metres.
Give your answer correct to 1 decimal place.

[3 marks]

Answer _____ kg/m³

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Do not write outside the box

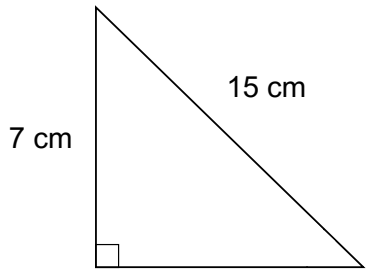
23 A utility bill changes from £80 to £90 between two months.

Work out the percentage increase of the utility bill.

[3 marks]

Answer _____ %

24 Here is a right-angled triangle.



Work out the perimeter of the triangle.
Give your answer correct to 1 decimal place.

[3 marks]

Answer _____ cm

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25 $A = 2 \times 3^3 \times 5^2$

$B = 2^3 \times 3 \times 5$

25 (a) Write down the number that A represents.

[1 mark]

Answer _____

25 (b) Find the Highest Common Factor (HCF) of 2*A* and *B*.

[2 marks]

Answer _____

Do not write outside the box

26 (a) Simplify $a^2 \times a \times a^{-5}$

[2 marks]

Answer _____

26 (b) Simplify $\dfrac{(4wc^3)^3}{8wc}$

[3 marks]

_____

_____

_____

Answer _____

26 (c) Factorise fully $x^2 + 9x + 20$

[2 marks]

_____

_____

_____

Answer _____

Do not write outside the box

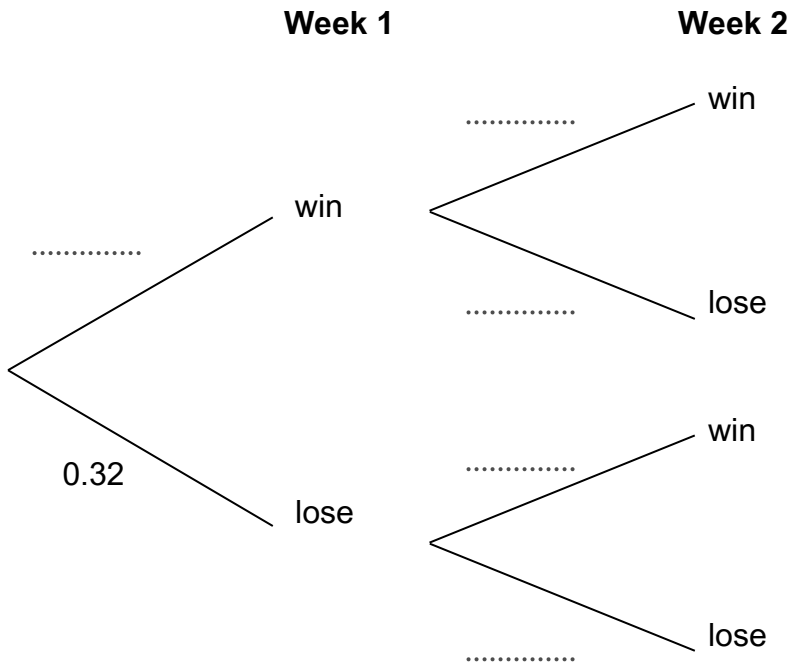
27 A tennis player is playing a game on Week 1 in a tournament and another game on Week 2.

The probability that the player will lose on Week 1 is 0.32

If they win on Week 1, the probability that they will win on Week 2 is 0.83

If they lose on Week 1, the probability that they will win on Week 2 is 0.45

27 (a) Complete the probability tree diagram. **[2 marks]**



27 (b) Estimate the probability that the player will win at least one match. **[3 marks]**

Answer _____

END OF QUESTIONS

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