



THIRD SPACE
LEARNING

Mathematics

Paper 1

(Non-Calculator)

Higher Tier

AQA GCSE

SET 5

Mathematics Paper 1 (Non-Calculator) Higher Tier AQA

GCSE SET 5

Name

Total marks



Paper length: 1hr 30mins

Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided – there may be more space than you need.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may not be used.

Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.

Question	Mark
1	
2	
3	
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21	
22	

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

This practice paper is based on the topics from the **advanced information for the November 2026 exam series**.

Please note, this practice paper is an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers

1 (a) Work out 0.9×0.8

[1 mark]

Answer _____

(b) Work out $\frac{3}{7} \times 4$

[1 mark]

Answer _____

2 Write 210 as a product of its prime factors.
Give your answer in index form.

[2 marks]

Answer _____

- [2 marks]**

3150

Largest

- [2 marks]**

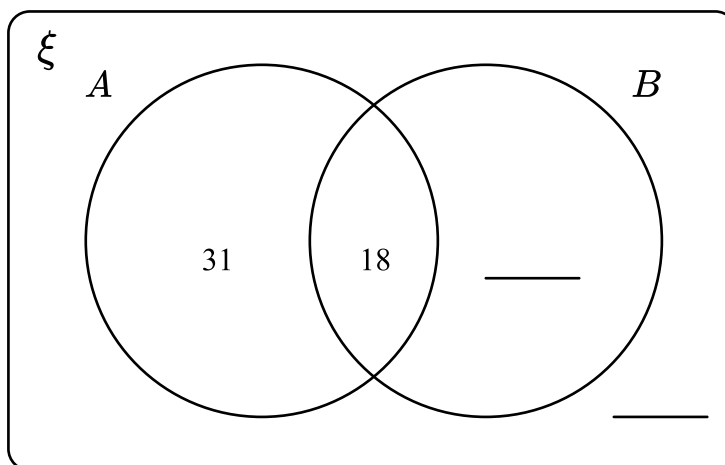
Answer £

5 Here is a Venn diagram.

$\xi = 80$ people

A = people who like apples

B = people who like bananas



(a) 40 people like bananas.

Complete the Venn diagram.

[2 marks]

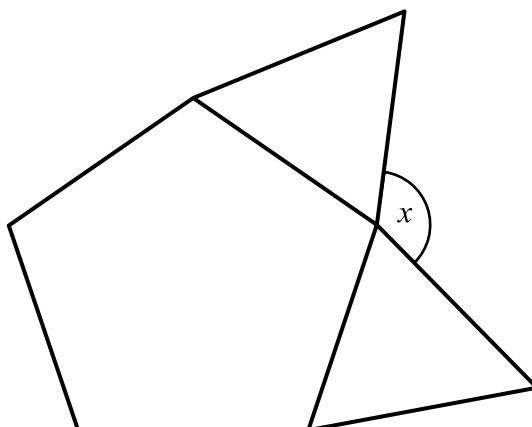
(b) One of the 80 people is chosen at random.

What is the probability that they like both apples and bananas?

[1 mark]

Answer _____

- 6 Here is a regular pentagon and two equilateral triangles.

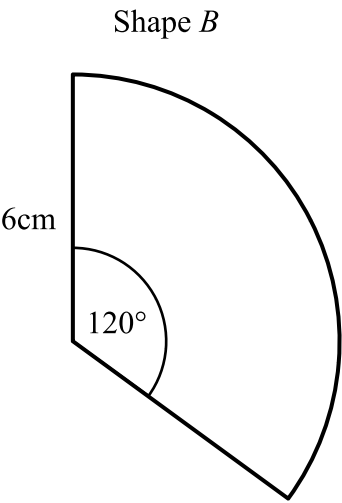
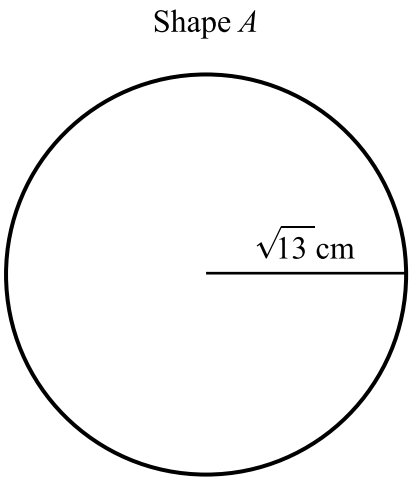


Show that angle x is 132°

[3 marks]

7 Shape A is a circle with radius $\sqrt{13}$ cm

Shape B is a sector of a circle with radius 6cm.



Not drawn
accurately

Which shape has the greater area, A or B ?

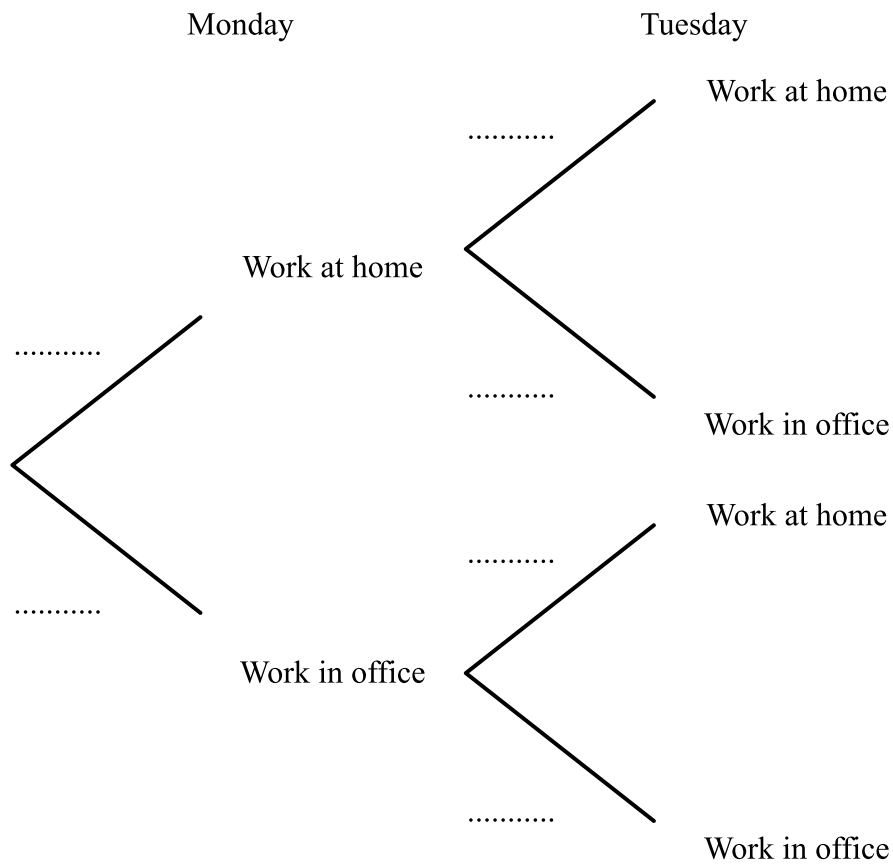
You must show your working.

[4 marks]

Answer _____

- 8 The probability that Faraz will work from home on any given day is p .

The probability that Faraz works at home on Monday and Tuesday is $\frac{49}{100}$



(a) Complete the tree diagram

[3 marks]

(b) Work out the probability that Faraz works in the office on exactly one of the two days.

[3 marks]

Answer _____

- 9 (a) Work out the value of $\frac{5^5 \times 5^{-2}}{5}$

[2 marks]

Answer _____

- (b) Find the value of 2^{-3}

[1 mark]

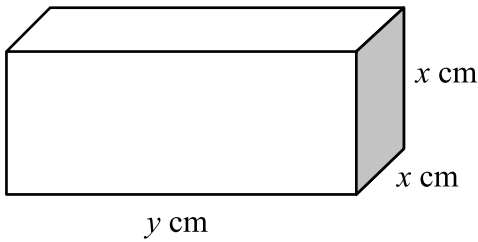
Answer _____

10 Solve $x^2 = 3x + 10$

[3 marks]

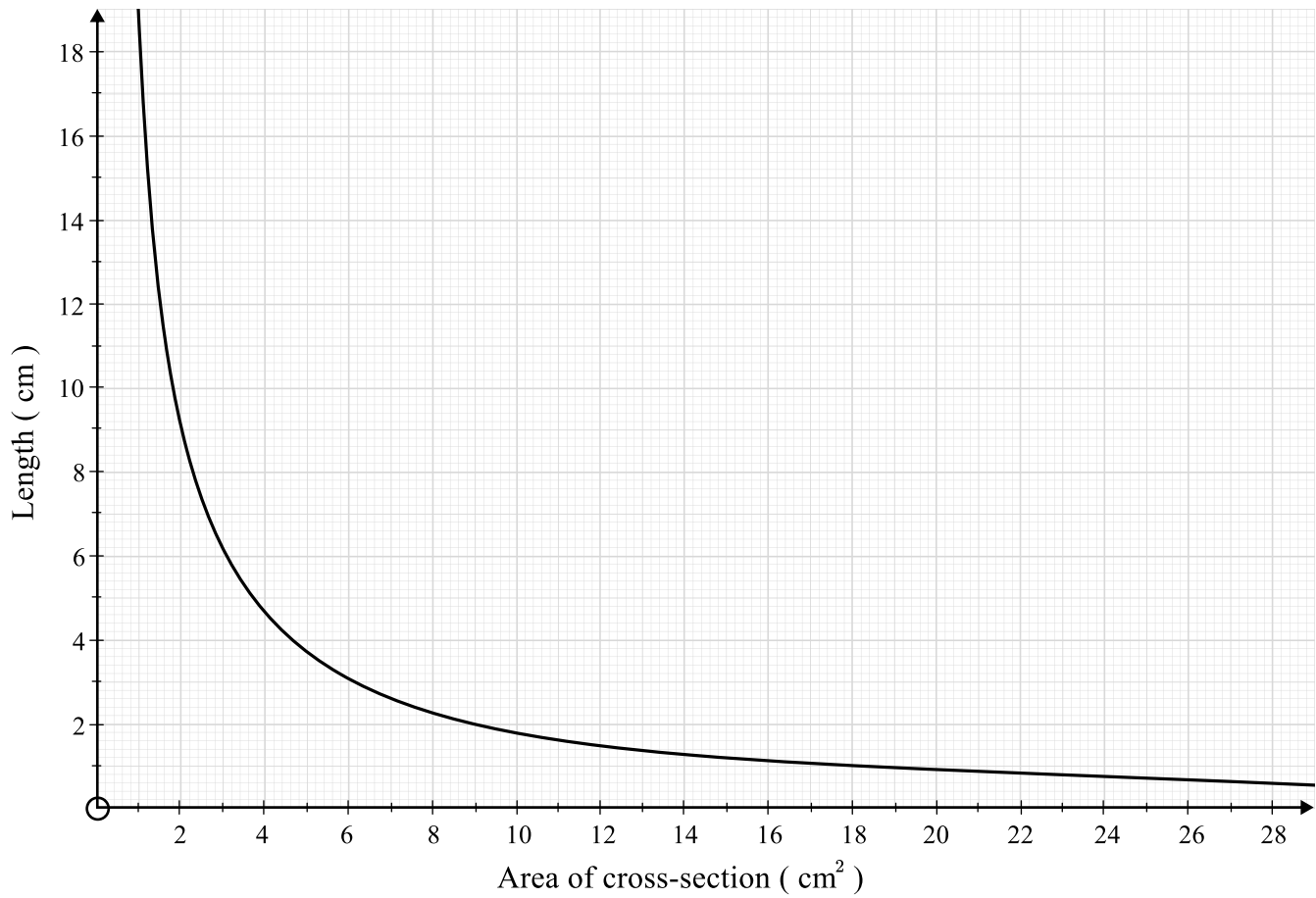
Answer _____

11 Here is a cuboid with a square cross-section.



The cuboid has a fixed volume, $V \text{ cm}^3$.

This graph shows some information about the cuboid.



(a) Use the graph to complete this table:

[2 marks]

Area of cross-section	1		3	6	12	
Length	18	9				1

(b) Write down the volume, V , of the cuboid.

[1 mark]

Answer _____ cm^3

Question continued on the next page

(c) Work out the surface area of the cuboid when the length of the cuboid is 2cm.

[4 marks]

Answer _____ cm^2

12 Richard and Jamie coach a football team.

This year they have taken the training sessions in the ratio 11:14.

Jamie says he has taken more than 60% of the coaching sessions.

Is Jamie correct?

Show how you decide.

[3 marks]

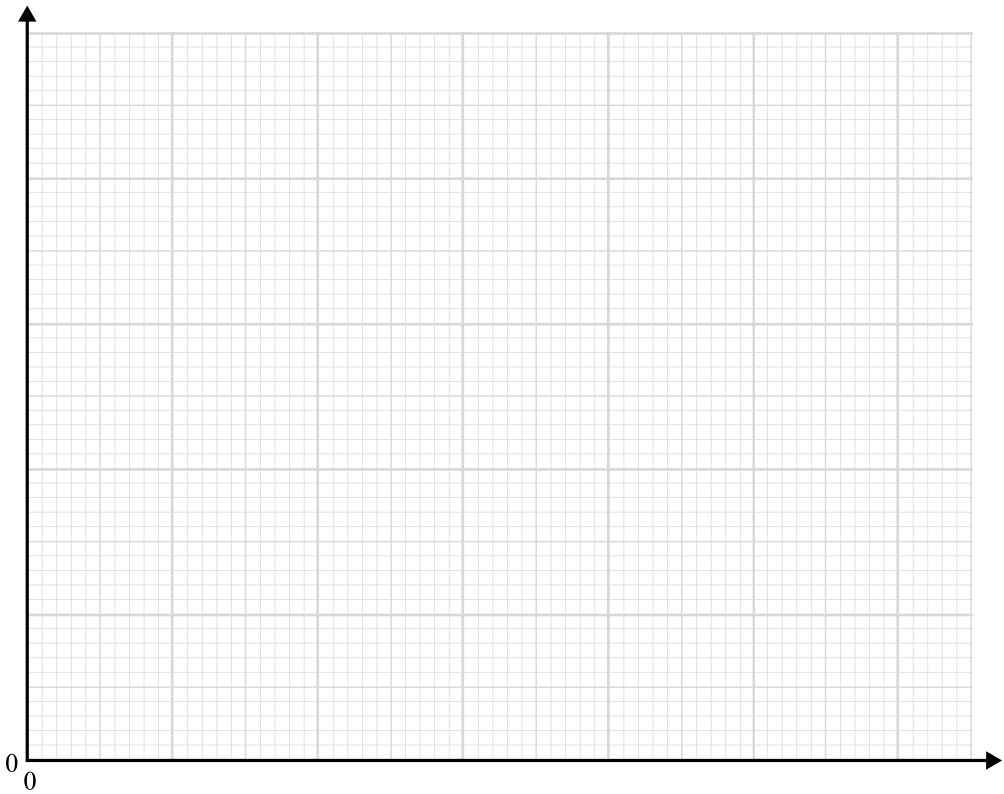
Answer _____

13 The table shows information about the number of hours worked in a week by some adults.

Number of hours (h)	Frequency
$0 \leq h < 15$	45
$15 \leq h < 25$	32
$25 \leq h < 35$	42
$35 \leq h < 40$	25
$40 \leq h < 60$	50

(a) On the grid draw a histogram to show this information.

[3 marks]



(b) Work out an estimate for the fraction of these adults who work between 30 and 40 hours.

[2 marks]

Answer _____

14 Work out $0.\dot{6}\dot{8} - 0.1\dot{2}$

Give your answer as a fraction in its simplest form.

[4 marks]

Answer _____

15 y is directly proportional to x^2

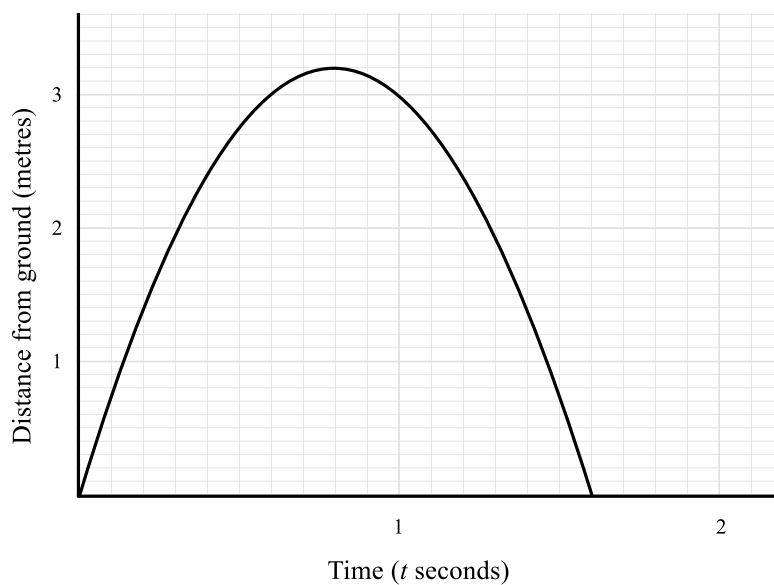
When $x = 10$, $y = 36$

Work out the value of y when $x = 3$

[3 marks]

Answer _____

- 16** A ball is thrown in the air. This distance-time graph shows how far the ball is above the ground.



- (a)** Calculate an estimate for the gradient of the graph when $t = 1$

You must show how you get your answer.

[3 marks]

Answer _____

- (b)** Describe fully what your answer to part **(a)** represents.

[2 marks]

- 17 Make p the subject of the formula $r = \frac{7(2p + 1)}{5p - 3}$

[4 marks]

Answer _____

- 18 Lara has some 5p coins and some 10p coins.

The total value of the coins is £2.10.

The ratio of 5p coins:10p coins is 5:1.

Work out how many 5p coins and how many 10p coins Lara has.

[4 marks]

5p coins _____ 10p coins _____

19 The first three terms of a geometric progression are

$\sqrt{3}$

6

$12\sqrt{3}$

Circle the next term.

[1 mark]

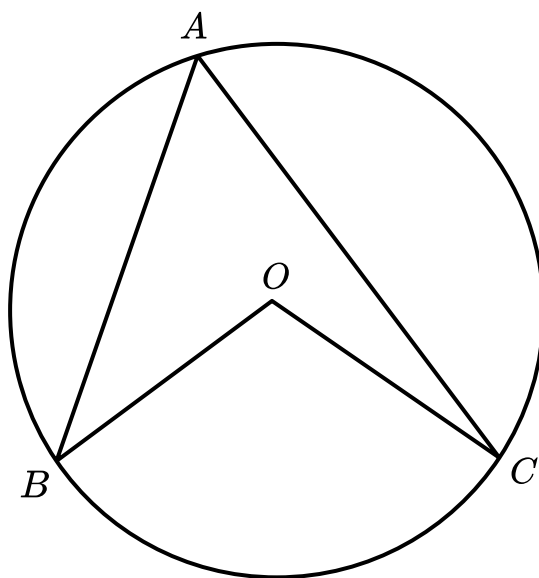
72

24

18

$18\sqrt{3}$

20

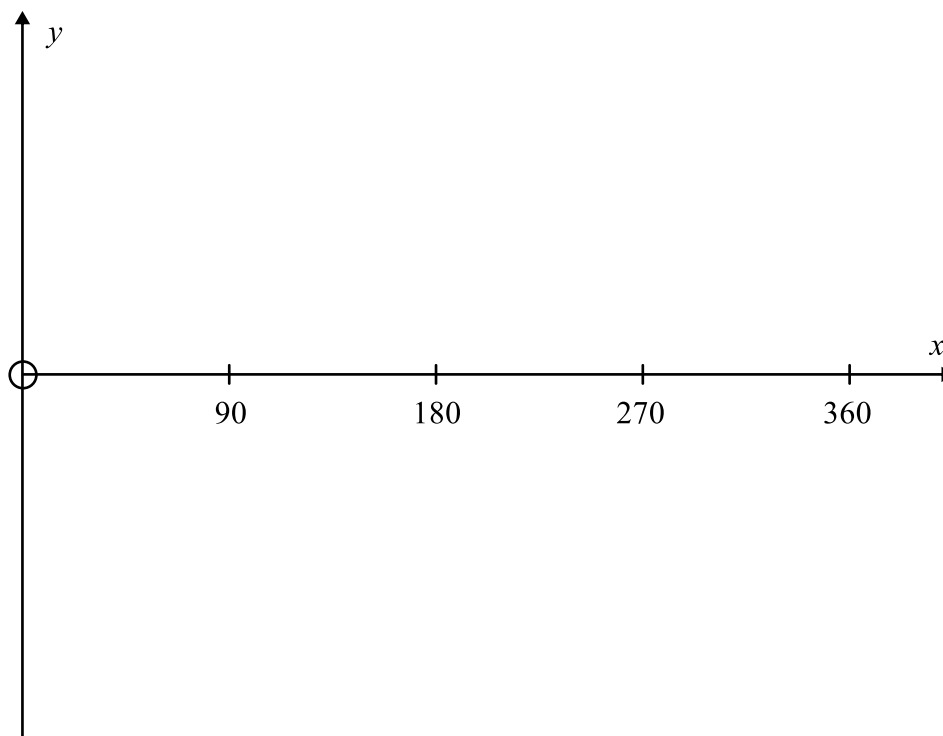


Prove that angle BOC is double angle BAC .

[4 marks]

21 (a) Sketch the graph of $y = \sin(x)$ for $0 \leq x \leq 360$

[2 marks]



(b) Which statement is true for $0 \leq x \leq 360$?

[1 mark]

- ☐ $\sin(x) = \tan(x)$ for 0 values of x
- ☐ $\sin(x) = \tan(x)$ for 1 value of x
- ☐ $\sin(x) = \tan(x)$ for 2 values of x
- ☐ $\sin(x) = \tan(x)$ for 3 values of x

22 The functions f , g and h are such that

$$f(x) = x^2 - 3$$

$$g(x) = 5x - x^2$$

$$h(x) = x + 3$$

(a) Find $h^{-1}(7)$

[2 marks]

Answer _____

(b) Find the set of values for x such that $f(x) < g(x) < h(x)$

[5 marks]

Answer _____


End of Questions

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