



THIRD SPACE
LEARNING

Mathematics

Paper 5

(Non-Calculator)

Higher Tier

OCR GCSE

SET 5

Mathematics Paper 5 (Non-Calculator) Higher Tier OCR

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.

Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

Information

- The total mark for this paper is 100
- The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.

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

(a) [1]

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

(b) [1]

(c) Work out.

$$(4.1 - \frac{4}{5}) \div 11$$

Give your answer as a decimal.

(c) [3]

2 By writing each number to 1 significant figure, find an estimate for this calculation.

$$\frac{39.4 + 4.7}{\sqrt{99.7}}$$

..... [2]

3 Write 210 as a product of its prime factors.

Give your answer in index form.

----- [2]

4 Write these numbers in order of size, starting with the smallest.

3.15×10^4

3.15×10^{-2}

3.15×10^{-1}

3150

Smallest

Largest

[2]

- 5 In a sale, prices are reduced by 40%
 The sale price of a laptop is £360
 Work out the original price of the laptop

£ [2]

- 6 Work out.

(a) $\begin{pmatrix} 3 \\ 8 \end{pmatrix} + \begin{pmatrix} 4 \\ -1 \end{pmatrix}$

(a) [1]

(b) $\begin{pmatrix} -3 \\ 7 \end{pmatrix} - 2\begin{pmatrix} 1 \\ 3 \end{pmatrix}$

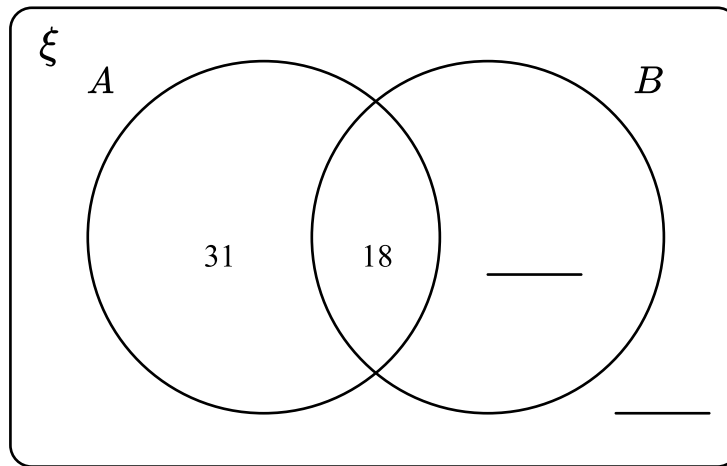
(b) [2]

7 Here is a Venn diagram.

$$\xi = 80 \text{ people}$$

A = people who like apples

B = people who like bananas



(a) 40 people like bananas.

Complete the Venn diagram.

[2]

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

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

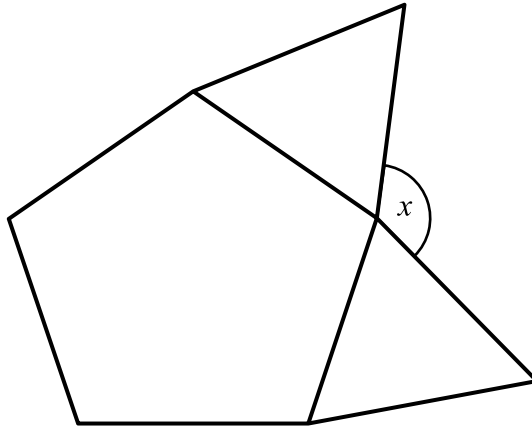
(b) [1]

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

Find the probability that this person does not like bananas given that they like apples.

(c) [2]

8 Here is a regular pentagon and two equilateral triangles.

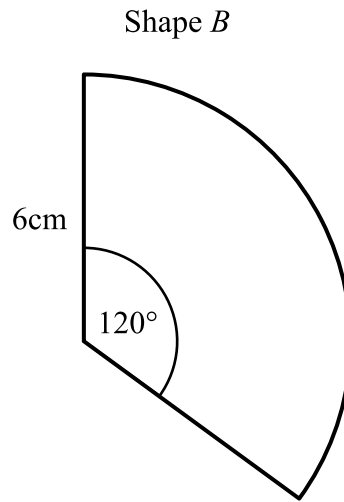
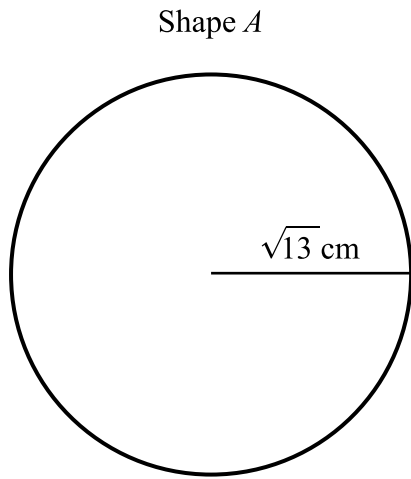


Show that angle x is 132°

[3]

9 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*?

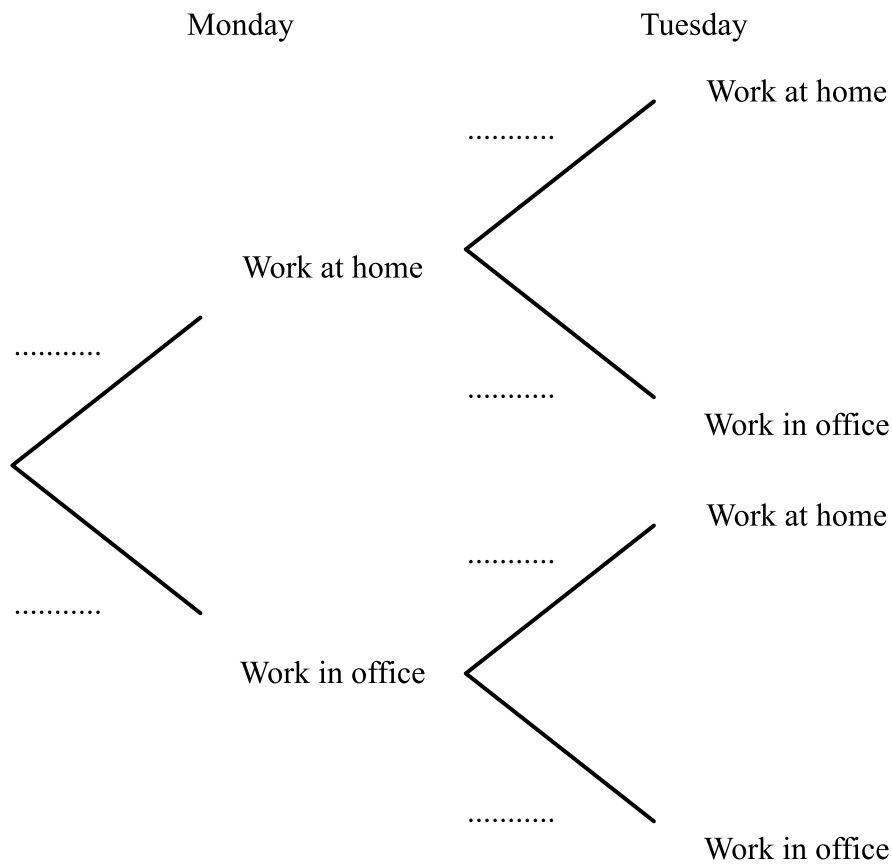
You must show your working.

Shape has greater area

[4]

10 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]

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

(b) [3]

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

(a) [2]

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

(b) [1]

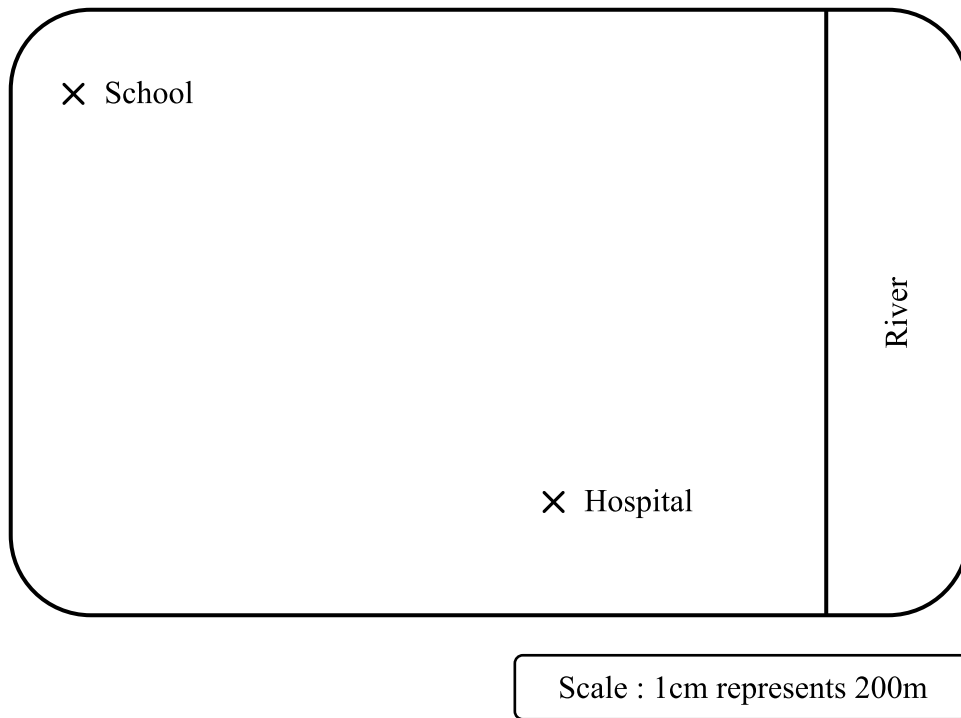
(c) Find the value of $\left(\frac{9}{45}\right)^{\frac{1}{2}}$

(c) [2]

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

$x =$ or $x =$ [3]

13 Here is part of the map of a town.



A new phone mast is to be installed in the town. The mast must be:

At least 900m from the school

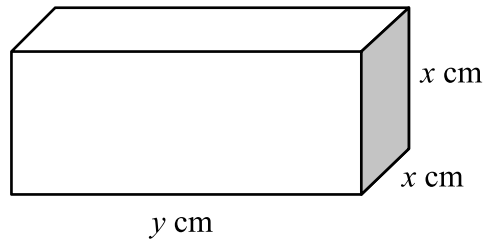
Closer to the hospital than the school

At least 600m from the river

On the diagram, shade the region where the mast could be placed.

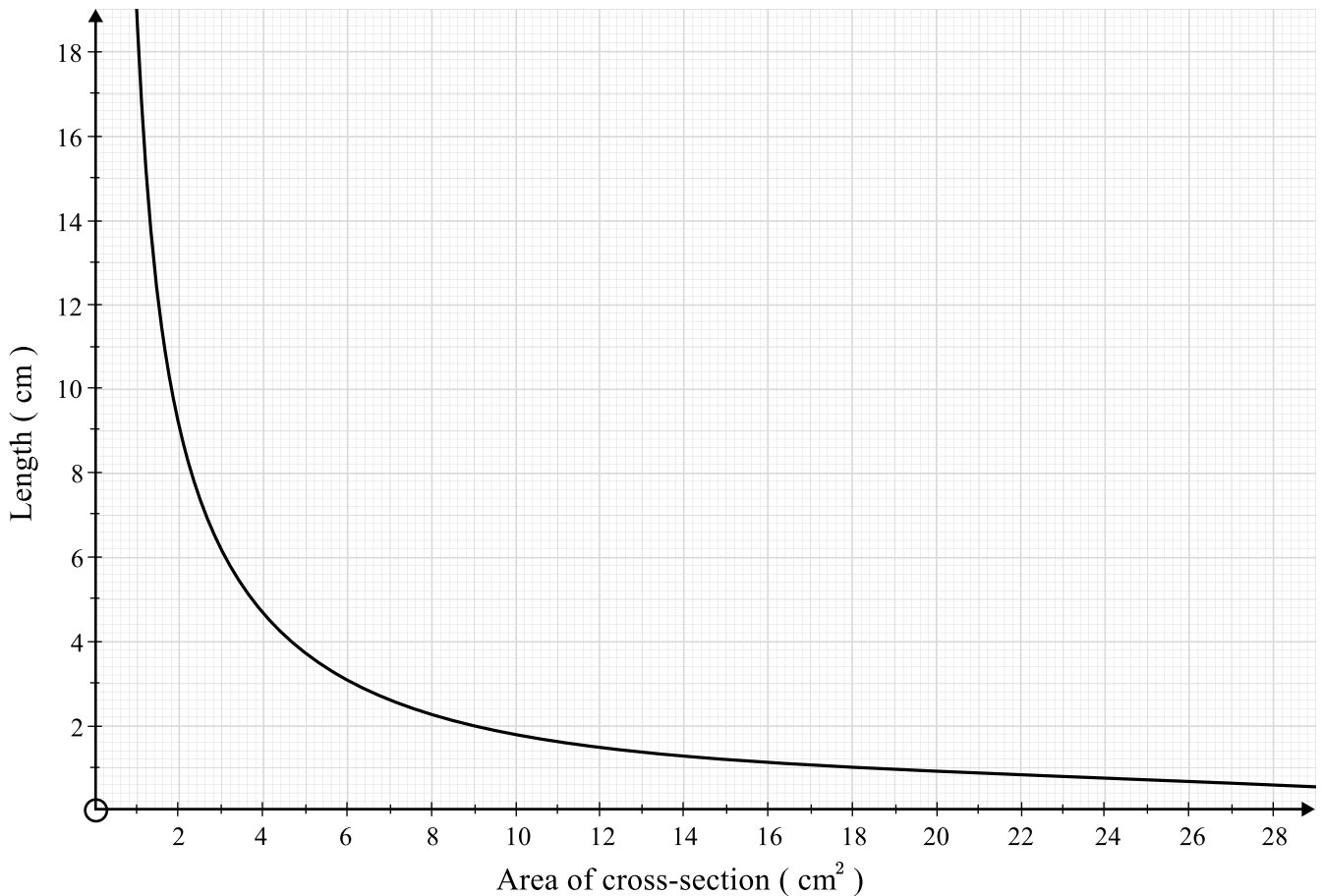
[4]

14 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]

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

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

(b) cm^3 [1]

Question continued on the next page

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

..... cm² [4]

15 (a) 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.

(a) [3]

(b) Jamie has coached 18 more sessions than Richard.

How many sessions has Jamie coached?

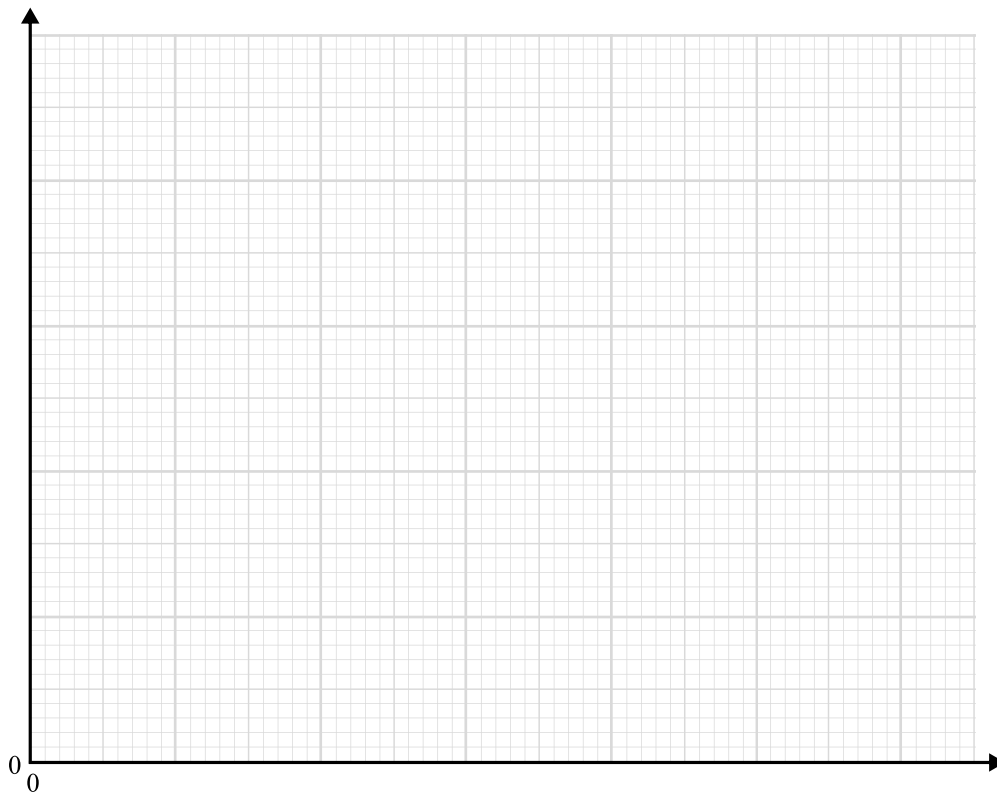
(b) [2]

16 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]



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

(b) [2]

17 Work out $0.6\dot{8} - 0.1\dot{2}$

Give your answer as a fraction in its simplest form.

----- [4]

18 (a) y is directly proportional to x^2

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

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

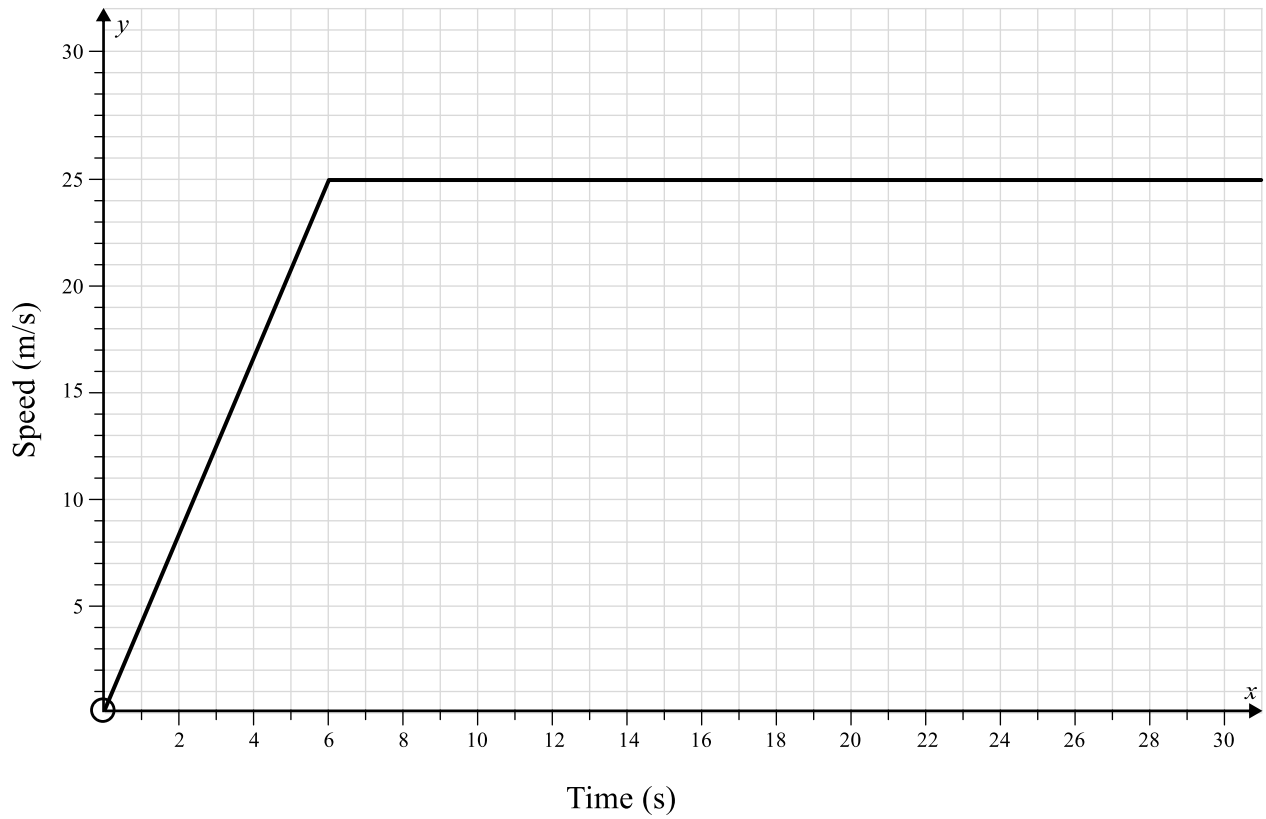
(a) ----- [3]

(b) a is inversely proportional to b .

Write down the percentage decrease in a when b is increased by 100%.

(b) ----- [1]

19 (a) This graph shows the speed of a vehicle during the first 30 seconds of a journey.

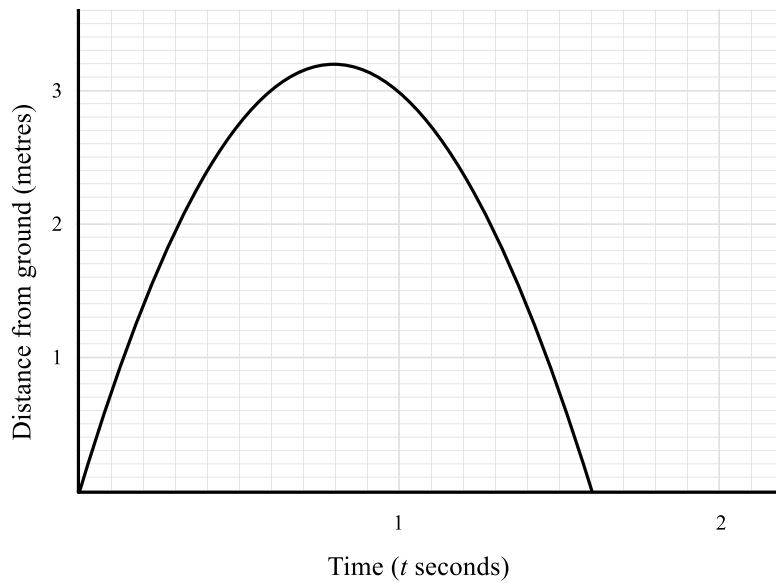


Calculate the distance travelled by the vehicle during the 30 seconds.

..... m [3]

Question continued on the next page

(b) A ball is thrown in the air. This distance-time graph shows how far the ball is above the ground.



(i) Calculate an estimate for the gradient of the graph when $t = 1$

You must show how you get your answer.

(a) [3]

(ii) Describe fully what your answer to part (a) represents.

.....

.....

[2]

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

----- [4]

21 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.

5p coins -----

10p coins -----

[4]

22 The first three terms of a geometric progression are

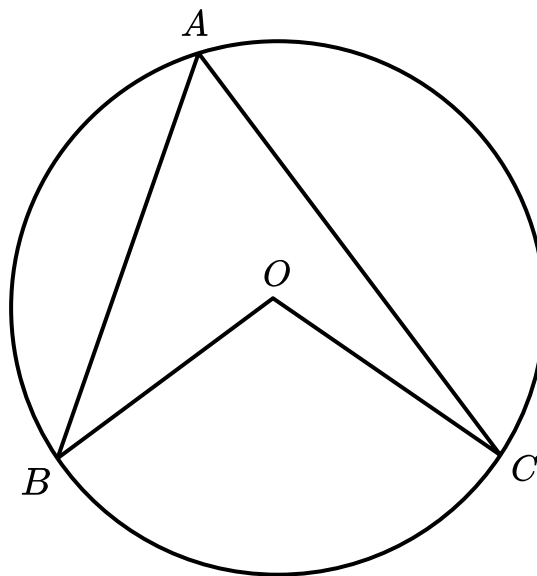
$$\sqrt{3} \qquad 6 \qquad 12\sqrt{3}$$

Circle the next term.

[1]

$$72 \qquad 24 \qquad 18 \qquad 18\sqrt{3}$$

23

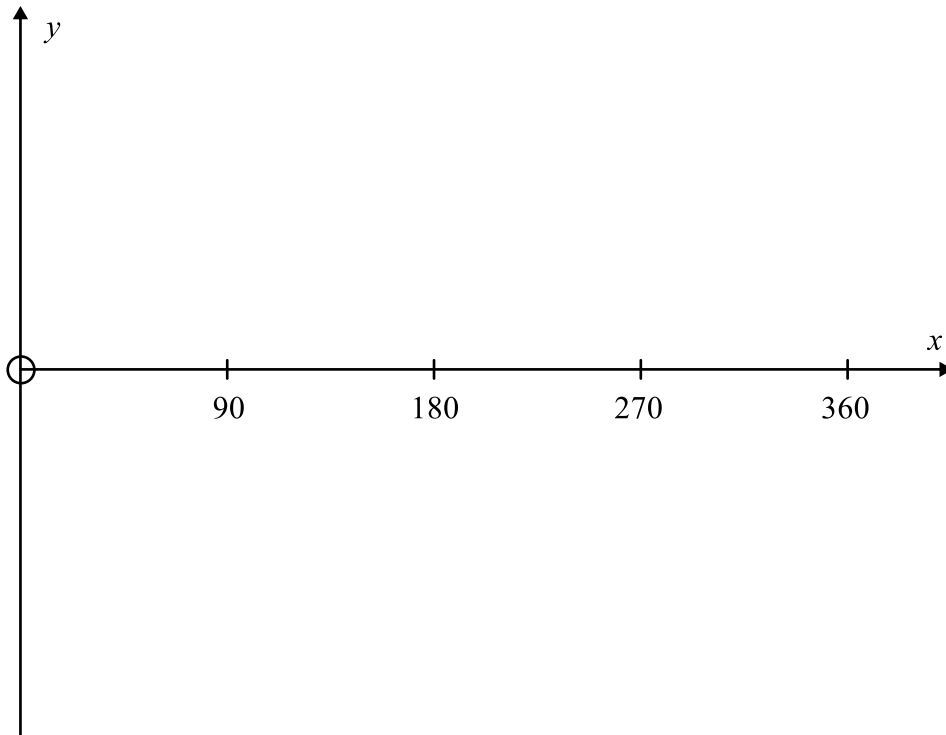


Prove that angle BOC is double angle BAC .

[4]

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

[2]



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

- $\sin(x) = \tan(x)$ 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

[1]

25 Find the set of values for x such that $x^2 - 3 < 5x - x^2 < x + 3$

----- [5]


End of Questions

Looking to improve your school's maths results without stretching your budget?

Tutoring from our spoken AI maths tutor Skye gives schools an even more affordable option for every pupil.

- ✓ 90% cheaper than other tutoring providers
- ✓ Curriculum-aligned lessons designed by qualified teachers
- ✓ Discounts available for long-term bookings and MATs

 thirdspacelearning.com

 0203 771 0095

 hello@thirdspacelearning.com

Where to go next?

For more GCSE maths revision resources and worksheets, visit the Third Space Learning [GCSE maths revision](#) pages. Or scan the QR code to discover our library of FREE GCSE maths revision resources:

