Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number	Candidate Number

Predicted Paper 2

Time: (1 hour 30 minutes)

Mathematics

Paper 2 (Calculator)
Higher Tier

3rd June 2026

Total Marks

Instructions

- Use black ink or ball-point pen.
- If pencil is used for diagrams/sketches/graphs it must be dark (HB or B).
- Fill in the boxes at the top of this page with your name, center number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided – there may be more space than you need.
- There are 80 marks. You have 1 hour and 30 minutes!
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may not be used.

FOR MORE MATHSWITHDAN RESOURCES, SCAN THE QR CODES:

Scan here:

Hello there! I hope your revision is going splendidly.
Welcome to my Predicted Paper 2 for GCSE Maths Higher Summer 2026!
My name is Dan, I am a full time GCSE and A Level Maths tutor with a First-Class degree In BSc Mathematics.

In addition to my tutoring sessions, I run a YouTube channel where I offer detailed walkthroughs of past GCSE and A-Level Maths papers. I am also on TikTok and Instagram, where I go through quick-fire questions to help students stay sharp, whether they're scrolling late at night or on their way to school!

This paper includes a variety of questions gathered from past exam papers (all publicly available) and questions created by me! I've uploaded a full video walkthrough for this paper on my YouTube channel – it's a great way to check your answers and understand the methods. You can access it by scanning the QR code below or in the top right corner of each page! Do the paper FIRST before watching the video!

DISCLAIMER:

There is no guarantee the topics in this paper will come up. Use this paper as extra practice alongside comprehensive revision. Good luck!!!

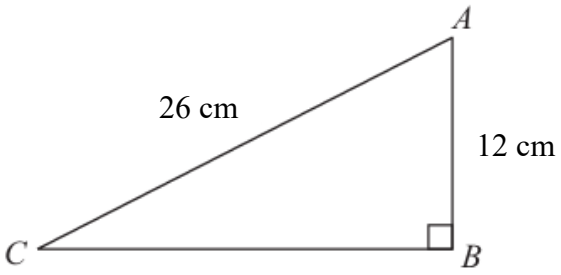
SCAN THE QR CODE FOR THE ENTIRE WALKTHROUGH

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 *ABC* is a right-angled triangle.



Work out the length of *CB*.
Give your answer correct to 3 significant figures.

.....cm

(Total for Question 1 is 2 marks)

2 (a) Write 72 as a product of its prime factors

.....

(2)

$A = 2^3 \times 3$

$B = 2 \times 3^2$

(b) Write down the lowest common multiple (LCM) of A and B

.....

(1)

(Total for Question 2 is 3 marks)

3 The number of hours, H, that some machines take to make 4800 boxes is given by

$$H = \frac{84}{n}$$ where n is the number of machines.

On Monday, 7 machines made 4800 bottles.
On Tuesday, 12 machines made 4800 bottles.

The machine took more time to make the bottles on Monday than on Tuesday.

How much more time?

..... hours

(Total for Question 3 is 3 marks)

4 Kelsey rounds a number, n, to 1 decimal place.
The result is 14.3

Complete the error interval for n.

..... $\leqslant n <$ .....

(Total for Question 4 is 2 marks)

---

5 A plane takes 1 hour and 40 minutes to fly from Jeddah to NEOM Bay.
The plane flies a distance of 820 kilometres.

Work out the average speed of the plane.
Give your answer in kilometres per hour.

..... kilometres per hour

(Total for Question 5 is 3 marks)

---

6 Amira invests £6200 in a savings account for 5 years.
She gets 3.1% per year compound interest.

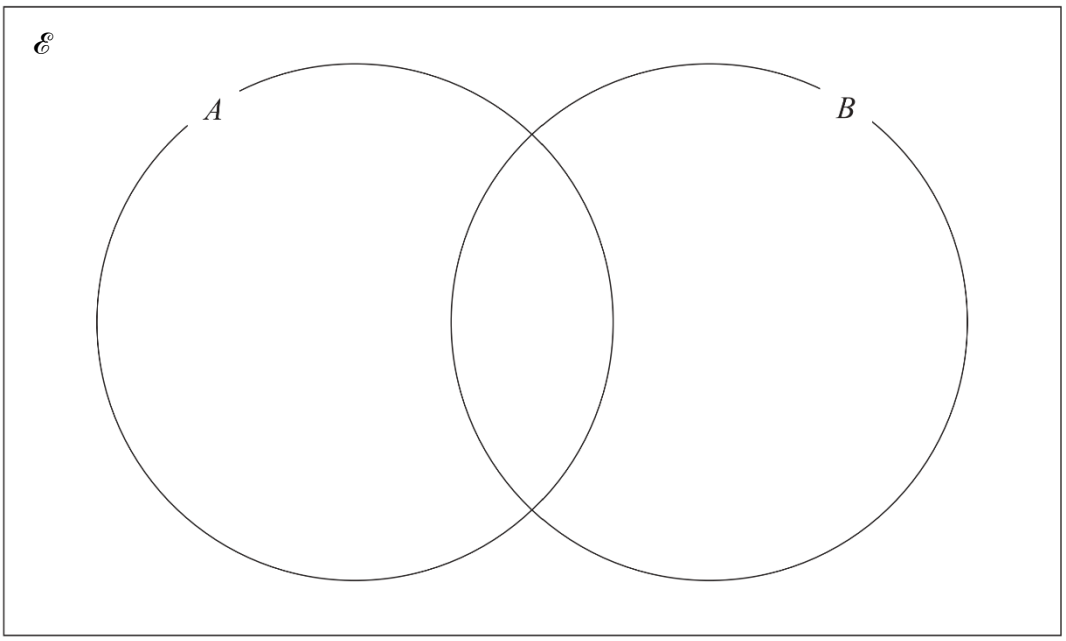
Work out how much money Amira will have in the savings account at the end of 5 years.
Give your answer to the nearest pound.

..... pounds

(Total for Question 6 is 3 marks)

7 $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$
$A = \{\text{multiples of 3}\}$
$B = \{\text{even numbers}\}$

(a) Complete the Venn diagram for this information.



(3)

A number is chosen at random from the universal set $\mathscr{E}$

(b) Find the probability that this number is in the set A'

.....

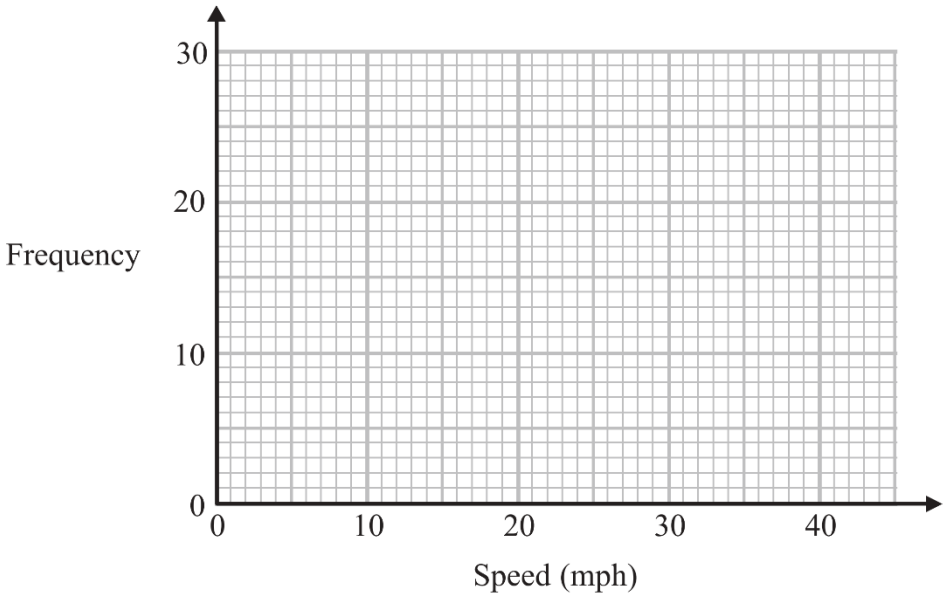
(2)

(Total for Question 7 is 5 marks)

8 The table gives information about the speeds of 70 cars.

Speed (s mph)	Frequency
$0 < s \leqslant 10$	16
$10 < s \leqslant 20$	20
$20 < s \leqslant 30$	22
$30 < s \leqslant 40$	12

Draw a frequency polygon for this information.



(Total for Question 8 is 2 marks)

9 The diagram shows a 6-sided shape *ABCDEF*

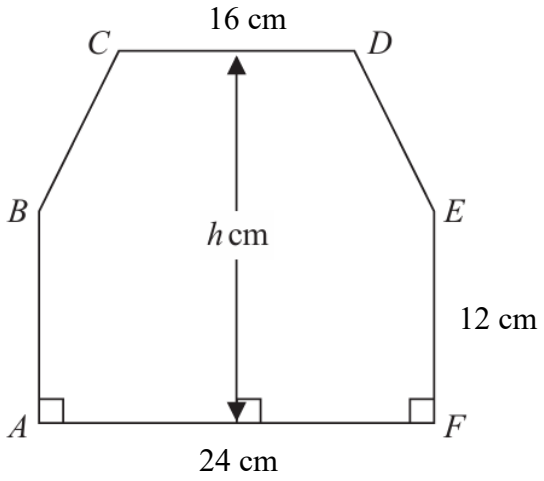


Diagram **NOT** Accurately drawn

$AF = 24$ cm $CD = 16$ cm $AB = FE = 12$ cm

The perpendicular height of the shape is h cm
CD is parallel to AF

The area of the shape is 390 cm^2

Work out the value of h

$h =$ .....

(Total for Question 9 is 4 marks)

10 Solve the simultaneous equations

$$6x + 4y = 1$$
$$3x + 5y = 8$$

Show clear algebraic working.

x = ...

y = ...

(Total for Question 10 is 3 marks)

11 Ismail uses a fitness tracker to count the number of steps he walks each day for 7 days.

For the first 3 days, his mean number of steps is 10400
For the next 4 days, his mean number of steps is 12850

Work out his mean number of steps for the 7 days.

.....

(Total for Question 11 is 3 marks)

12 Jorja is studying the population of deer in a nature reserve
She wants to estimate the number of deer in the reserve.

On Monday she catches a random sample of 24 deer in the reserve, marks each deer with a tag and releases them back into the reserve.

On Tuesday she catches a random sample of 60 deer in the reserve.
18 of the deer are marked with a tag.

(a) Find an estimate for the number of deer in the reserve.

.....

(3)

Mary-Ann is studying the population of deer in a forest.

One day, she catches 48 deer and finds that 36 of these deer are marked with a tag.

Mary-Ann estimates there are 40 deer in the wood.

(b) Explain why Mary-Ann's estimate cannot be correct.

.....

.....

.....

(1)

(Total for Question 12 is 4 marks)

13 (a) Factorise $p^2 - q^2$

.....

(1)

(b) Hence, or otherwise, simplify fully $(x^2 + 5)^2 - (x^2 - 3)^2$

(3)

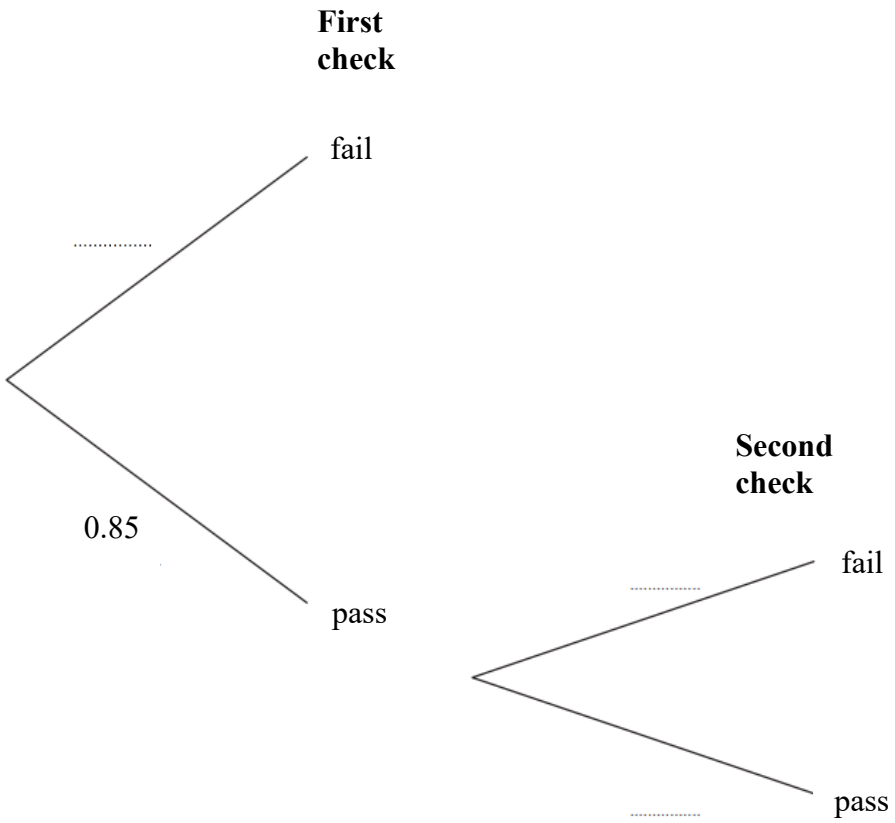
(Total for Question 13 is 4 marks)

14 At a bakery, batches of bread go through two quality checks.

85% of batches pass the first quality check.
Batches that fail the first check are discarded.

Of the batches that pass the first check, 97% pass the second quality check.
Batches that fail the second check are discarded.

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



(2)

A batch of bread is chosen at random before the quality checks.

(b) Work out the probability the batch is discarded.

.....

(3)

(Total for Question 14 is 5 marks)

15 $q = \sqrt{\frac{5g}{h}}$

$g = 4.3$ correct to 1 decimal place.

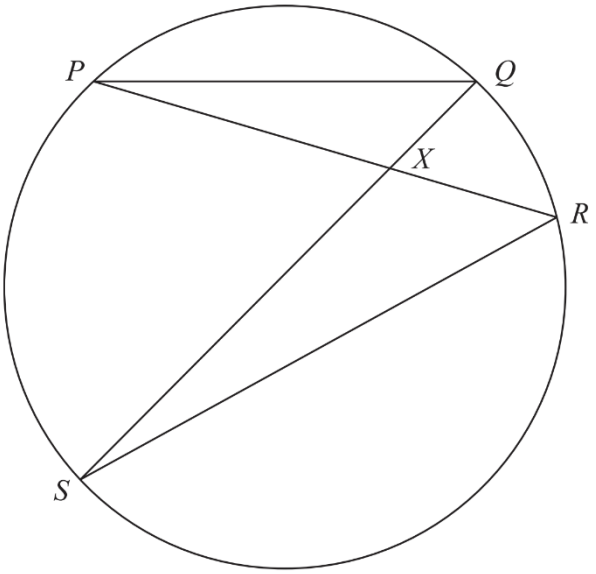
$h = 0.08$ correct to 1 significant figure.

Work out the upper bound for the value of q.
Give your answer correct to 3 significant figures.
You must show all your working.

.....

(Total for Question 15 is 3 marks)

16 P, Q, R and S are four points on a circle.



PXR and SXQ are straight lines.

Prove that $\frac{PX}{XS} = \frac{QX}{XR}$

(Total for Question 16 is 4 marks)

17 The functions f and g are such that

$$g(x) = \sqrt[3]{3x - 2} \quad \text{and} \quad h(x) = \frac{1}{x}$$

(a) Find gh(1)

.....

(2)

(b) Find $hg^{-1}(x)$

Give your answer in terms of x in its simplest form.

$hg^{-1}(x) =$ .....

(3)

(Total for Question 17 is 5 marks)

18 Show that $\frac{4y}{y+3} - \frac{y-1}{y-3} - 3$ can be written in the form $\frac{ay+b}{y^2-9}$

where a and b are integers.

(Total for Question 18 is 4 marks)

19 Here is a cuboid *ABCDEFGH*

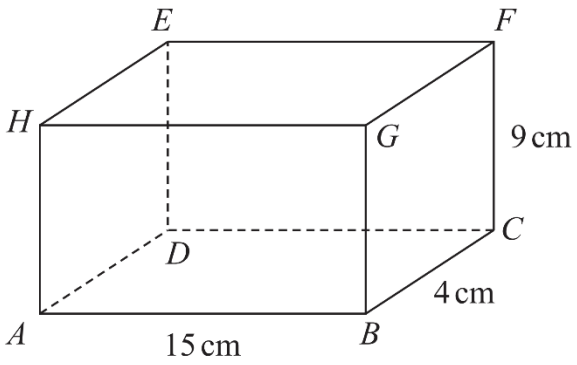


Diagram **NOT** accurately drawn

AB = 15 cm *BC* = 4 cm *CF* = 9 cm

(a) Work out the length of *BE*
Give your answer correct to 3 significant figures.

..... cm

(2)

Here is a cuboid $PQRSTUVW$

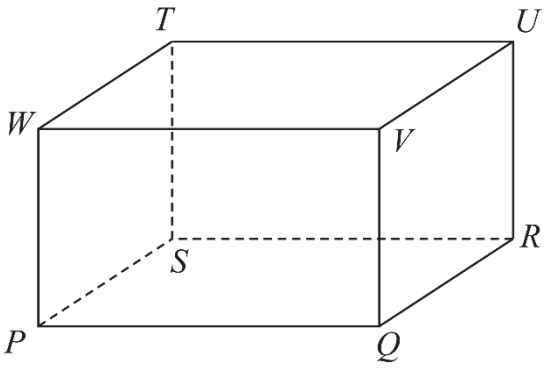


Diagram **NOT** accurately drawn

$PR = 42$ cm

The size of the angle between PU and the plane $PQRS$ is 30°

M is the midpoint of PR

(b) Work out the size of angle UMR
Give your answer correct to 3 significant figures.

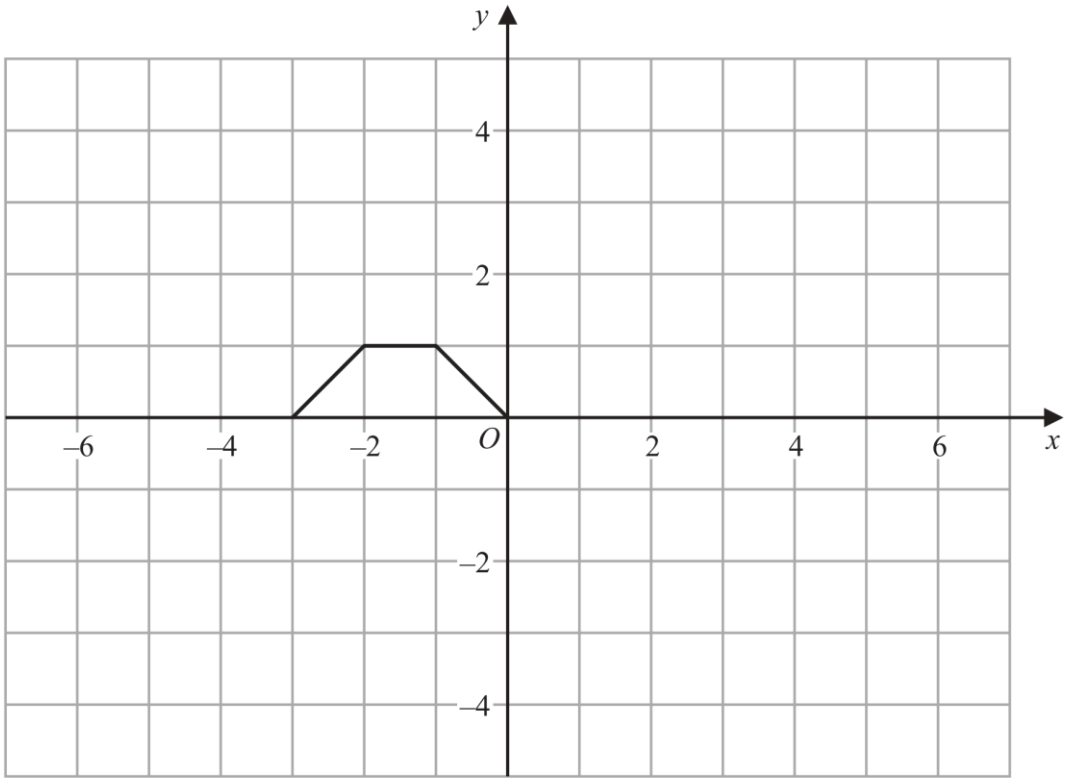
.....°

(3)

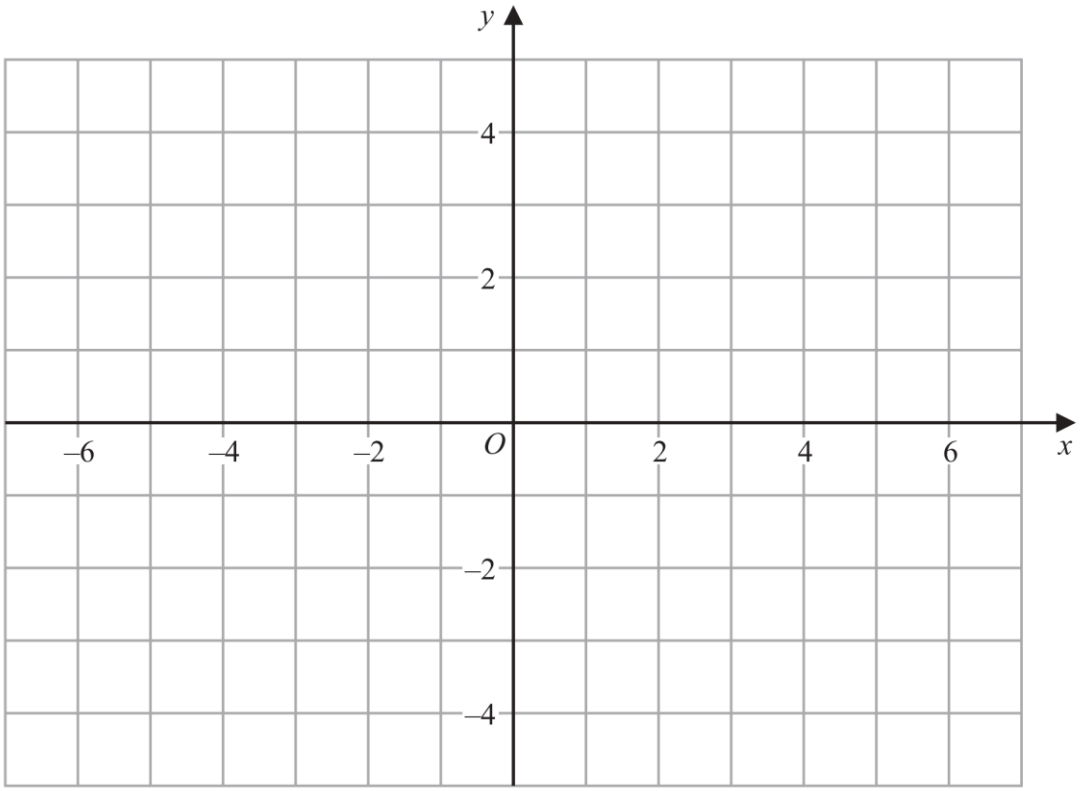
(Total for Question 19 is 5 marks)

Scan here:

20 Here is the graph of $y = f(x)$

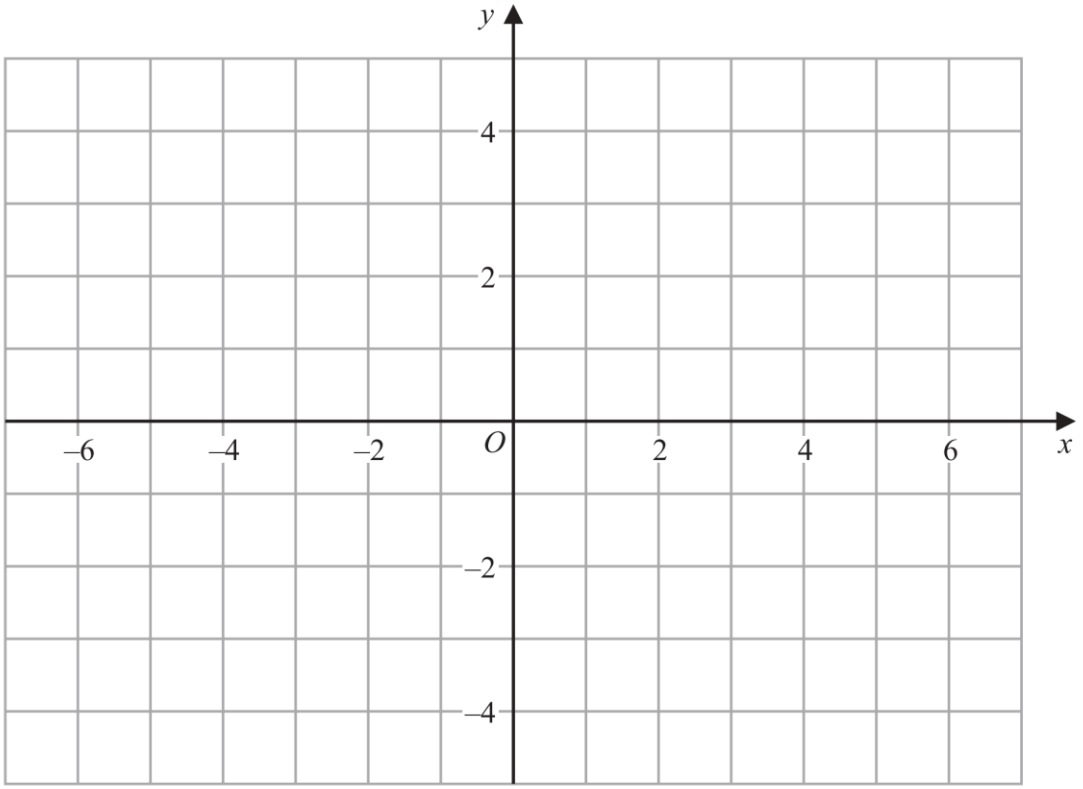


(a) On the grid below, draw the graph of $y = f(x - 4)$



(1)

(b) On the grid below, draw the graph of $y = -f(x)$



(1)

(Total for Question 20 is 2 marks)

21

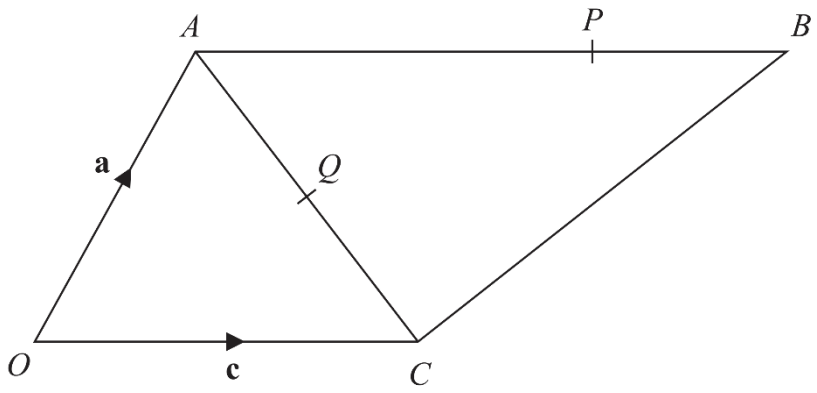


Diagram **NOT** accurately drawn

$\overrightarrow{OA} = \mathbf{a}$ $\overrightarrow{OC} = \mathbf{c}$ $\overrightarrow{AB} = 2\mathbf{c}$

P is the point on AB such that $AP : PB = 3 : 1$
Q is the point on AC such that OQP is a straight line.

Use a vector method to find $AQ : QC$
Show your working clearly.

$AQ : QC =$ .....

(Total for Question 21 is 5 marks)

22 The diagram shows two circles with centre O and a regular pentagon $ABCDE$

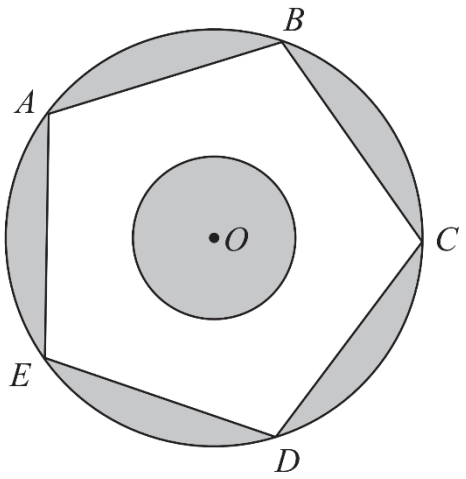


Diagram **NOT** accurately drawn

A, B, C, D and E are points on the larger circle.
The pentagon has sides of length 8 cm.

The diagram is shaded such that

shaded area = unshaded area

Work out the radius of the smaller circle.
Give your answer correct to 3 significant figures

..... cm

(Total for Question 22 is 6 marks)

TOTAL FOR PAPER IS 80 MARKS

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Congratulations on completing the paper! I hope it has helped you with your revision.

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Buy Me a Coffee

Take care!