Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Spring 2026

Pearson Edexcel Level 1/Level 2 GCSE (9–1)

AIMING FOR GRADE 9

40 marks (40 minutes)

Paper reference **1MA1/3H**

Mathematics

Paper 3 (Calculator)
Higher Tier

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB or B pencil, eraser, calculator, Formulae Sheet (enclosed). Tracing paper may be used.

Total Marks

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 be used.**

Information

- The total mark for this paper is 40. There are 11 questions.
- Questions have been broadly arranged in an ascending order of mean difficulty, as found by students achieving Grade 9 in the Summer and November 2025 examinations.
- Questions marked with an asterisk (*) also appear on the Foundation Tier paper.
- 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

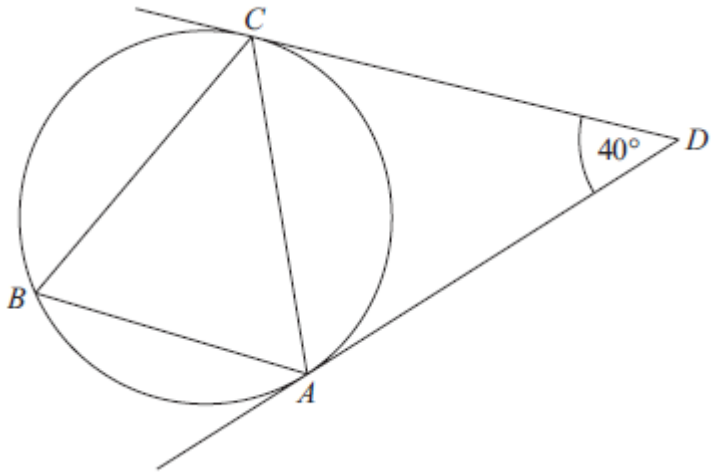
- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Answer all questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 A, B and C are three points on a circle.

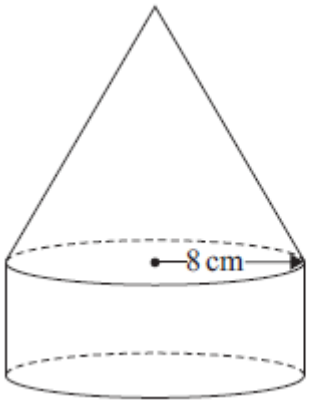


CD and AD are tangents to the circle.
Find the size of angle ABC.
You must give a reason for each stage of your working.

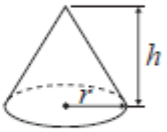
.....°

(Total for Question 1 is 4 marks)

2 The diagram shows a solid shape made from a cylinder and a cone.



Volume of cone $= \frac{1}{3}\pi r^2 h$



The cone has a base radius of 8 cm.
The cylinder has a radius of 8 cm.

The vertical height of the cone is three times the height of the cylinder.

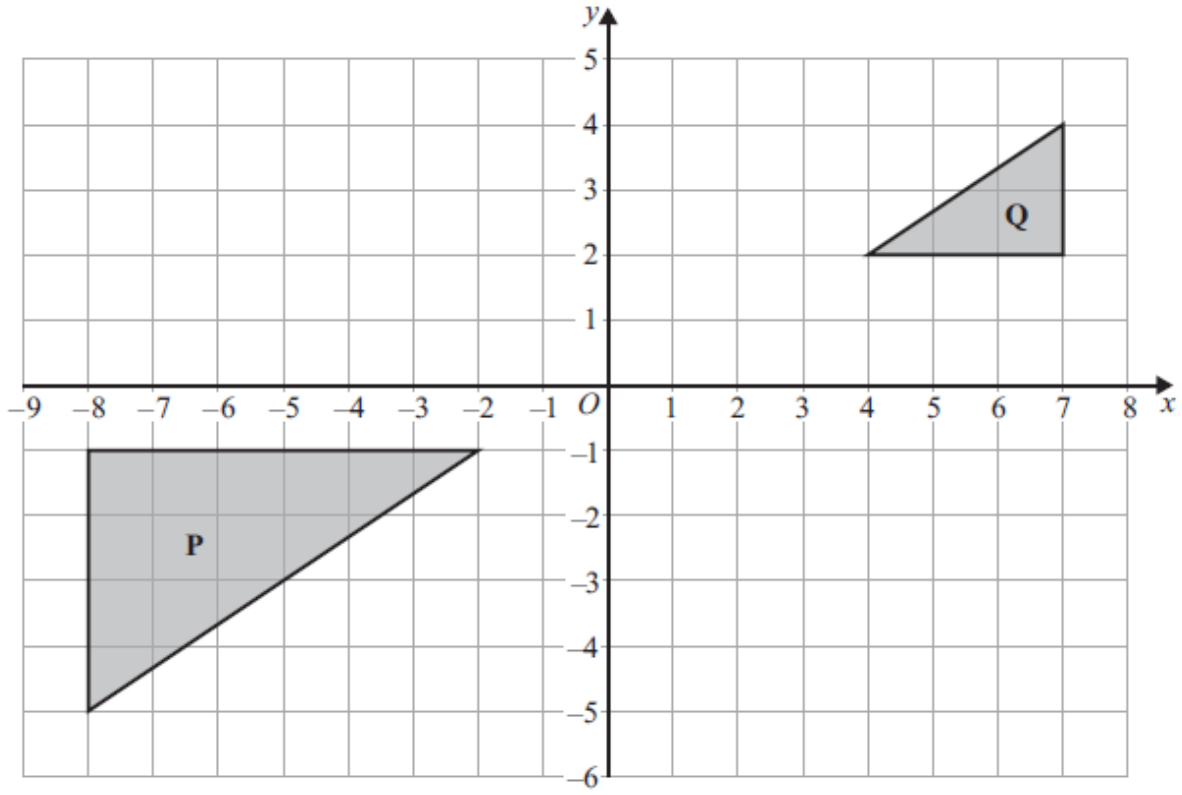
The volume of the solid shape is 640π cm^3

Work out the vertical height of the cone.
You must show all your working.

..... cm

(Total for Question 2 is 4 marks)

3



Shape **P** can be transformed to shape **Q** by an enlargement with scale factor s and centre (a, b)

Find the value of s, the value of a and the value of b.

$s =$ .....

$a =$ .....

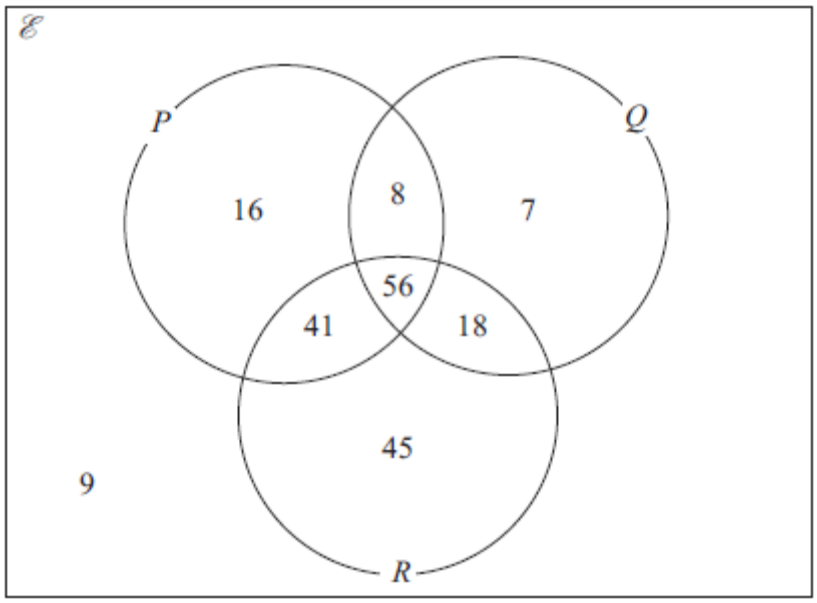
$b =$ .....

(Total for Question 3 is 2 marks)

4 Jodie asks 200 people which of the social network sites, P, Q and R they use.

The Venn diagram gives information about her results.

$\mathscr{E}$ = {all 200 people}
P = {people who use site P}
Q = {people who use site Q}
R = {people who use site R}



Given that a person selected at random from the 200 people uses site Q,

find the probability that this person also uses site P.

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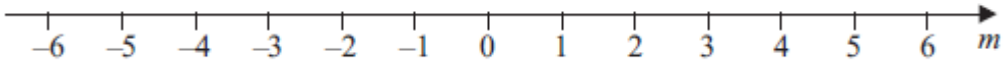
(Total for Question 4 is 2 marks)

5 On the number line below, show the inequality $m \leq 1$



(Total for Question 5 is 1 mark)

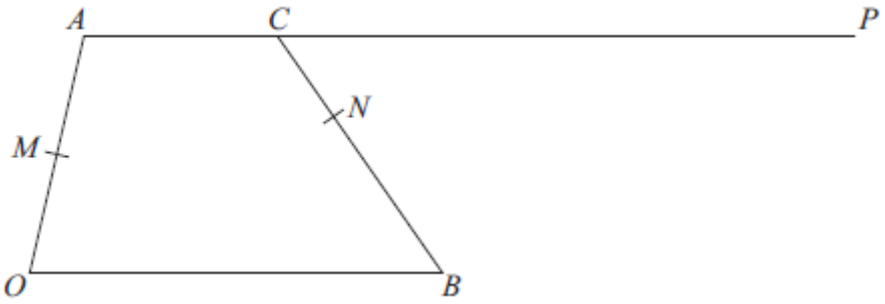
6 **C** is a circle with centre (0, 0)
The straight line with equation $3x - 2y = 52$ is the tangent to **C** at the point P.

Find the coordinates of P.

(..... , ...)

(Total for Question 6 is 4 marks)

7 *OACB* is a quadrilateral.
ACP is a straight line.



M is the midpoint of *OA*.
N is the point on *BC* such that *BN* : *NC* = 5 : 3

$\overrightarrow{OA} = \mathbf{a}$ $\overrightarrow{OB} = 3\mathbf{b}$ $\overrightarrow{AC} = 2\mathbf{b}$

$\overrightarrow{CP} = k \times \overrightarrow{AC}$ where *k* is a scalar.

Given that *MNP* is a straight line, find the value of *k*.
You must show all your working.

k = ...

(Total for Question 7 is 5 marks)

8 There are some sheets of paper in a pile.

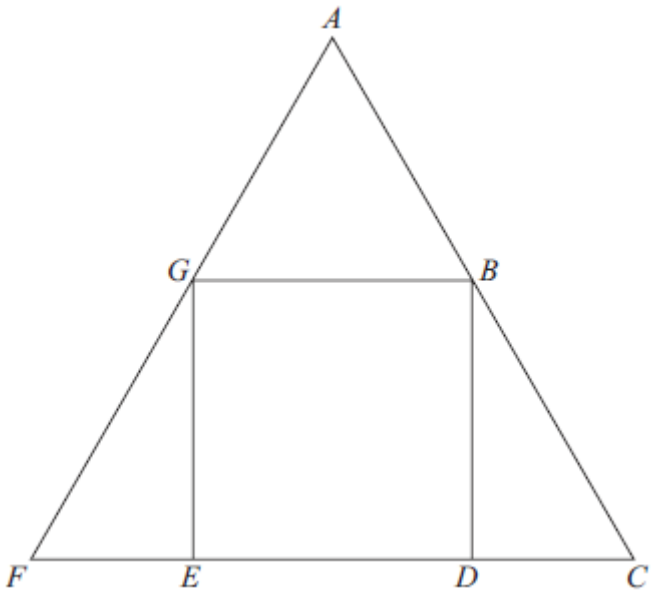
The height of the pile is 10.4 cm, correct to the nearest mm.
The thickness of each sheet of paper is 0.17 mm, correct to 2 significant figures.

Calculate the upper bound for the number of sheets of paper in the pile.
You must show all your working.

.....

(Total for Question 8 is 3 marks)

9 In the diagram, ABG and ACF are equilateral triangles.
$GBDE$ is a square of side x cm.



Find

area ABG : area ACF

Give your answer in the form $a : b + c\sqrt{d}$ where a, b, c and d are integers.
You must show all your working.

.....

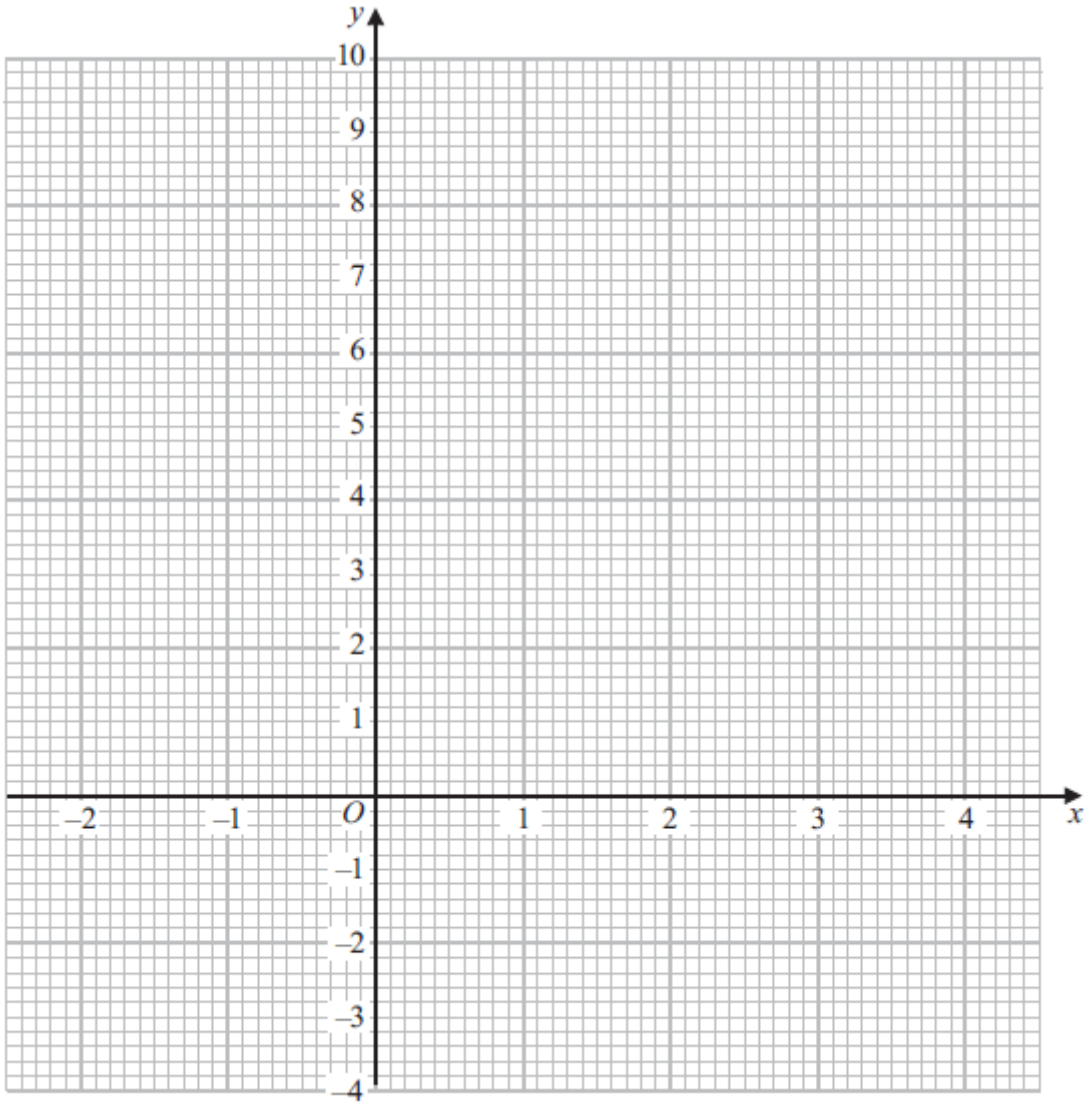
(Total for Question 9 is 5 marks)

10 (a) Complete the table of values for $y = x^2 - 2x - 1$

x	–2	–1	0	1	2	3	4
y		2			–1		7

(2)

(b) On the grid, draw the graph of $y = x^2 - 2x - 1$ for values of x from –2 to 4



(2)

(c) Use your graph to find estimates for the solutions of $x^2 - 2x - 1 = 3$

.....

(2)

(Total for Question 10 is 6 marks)

11 (a) Prove that, for any integer m, where $m > 0$

$$(5m+2)^2 - (5m-2)^2 \quad \text{is a multiple of } 20$$

(3)

Ali says,

"80 is a factor of $(5m+2)^2 - (5m-2)^2$ for any integer m, where $m > 0$"

(b) Is Ali correct?
You must give a reason for your answer.

.....

.....

.....

(1)

(Total for Question 11 is 4 marks)

TOTAL FOR PAPER IS 40 MARKS