

Please check the examination details below before entering your candidate information

Candidate surname					Other names				
Centre Number					Candidate Number				

Pearson Edexcel International GCSE

Thursday 14 May 2026

Morning (Time: 2 hours)

Paper reference **4MA1/1H**

Mathematics A

PAPER 1H

Higher Tier



You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. 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.
- Without sufficient working, correct answers may be awarded no marks.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- **Calculators may be used.**
- You must **NOT** write anything on the formulae page.
- Anything you write on the formulae page will gain NO credit.

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.
- Check your answers if you have time at the end.

Turn over ►

P81062A

©2026 Pearson Education Ltd.
P:1/1/1/1/1/



International GCSE Mathematics

Formulae sheet – Higher Tier

Arithmetic series

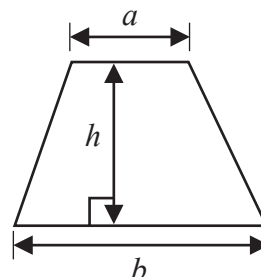
Sum to n terms, $S_n = \frac{n}{2} [2a + (n-1)d]$

The quadratic equation

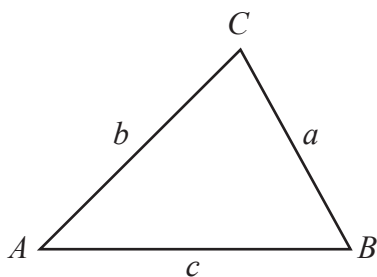
The solutions of $ax^2 + bx + c = 0$ where $a \neq 0$ are given by:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\text{Area of trapezium} = \frac{1}{2}(a+b)h$$



Trigonometry



In any triangle ABC

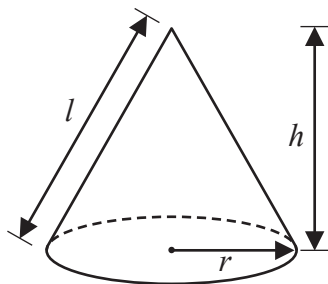
$$\text{Sine Rule } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{Cosine Rule } a^2 = b^2 + c^2 - 2bc \cos A$$

$$\text{Area of triangle} = \frac{1}{2}ab \sin C$$

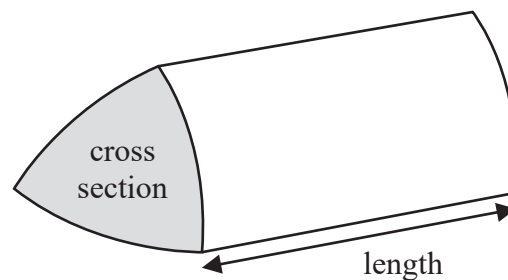
$$\text{Volume of cone} = \frac{1}{3}\pi r^2 h$$

$$\text{Curved surface area of cone} = \pi r l$$



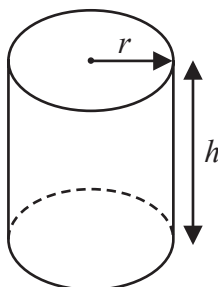
Volume of prism

= area of cross section $\times$ length



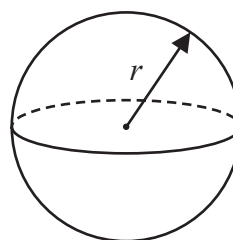
$$\text{Volume of cylinder} = \pi r^2 h$$

$$\text{Curved surface area of cylinder} = 2\pi r h$$



$$\text{Volume of sphere} = \frac{4}{3}\pi r^3$$

$$\text{Surface area of sphere} = 4\pi r^2$$



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Answer ALL TWENTY FIVE questions

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Show that $4\frac{1}{7} - 2\frac{3}{5} = 1\frac{19}{35}$

(Total for Question 1 is 3 marks)

2

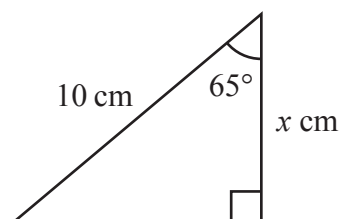


Diagram **NOT**
accurately drawn

Work out the value of x
Give your answer correct to 3 significant figures.

$x =$

(Total for Question 2 is 3 marks)



P 8 1 0 6 2 A 0 3 2 8

3 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19\}$

$A = \{\text{factors of } 20\}$

$B = \{\text{multiples of } 5\}$

(a) List the members of the set

(i) $A \cup B$

(1)

(ii) $A \cap B'$

(1)

$C = \{\text{prime numbers}\}$

Ana writes down the statement $A \cap C = \emptyset$
 Ana's statement is wrong.

(b) Explain why.

(1)

(Total for Question 3 is 3 marks)



- 4 Henri competes in a race.

For the first part of the race Henri cycles 60 km at an average speed of 24 km/h

For the remaining part of the race Henri runs for 1 hour and 15 minutes at an average speed of 12 km/h

Work out Henri's average speed for the whole race.

Give your answer in km/h

Show your working clearly.

..... km/h

(Total for Question 4 is 4 marks)



5 (a) Expand $4e(2e - 3)$

(1)

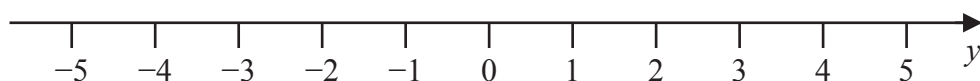
(b) Expand and simplify $(f + 3)(f - 6)$

(2)

(c) Make x the subject of $t = ax - 2n$

(2)

(d) On the number line, represent the inequality $-1 < y \leq 3$



(2)

(Total for Question 5 is 7 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

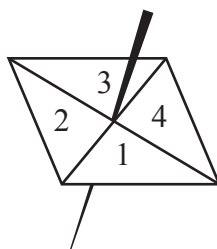
DO NOT WRITE IN THIS AREA

6 Simplify $(4x^5y^6)^3$

(Total for Question 6 is 2 marks)



7 Here is a biased 4-sided spinner.



The table gives information about the probability that, when the spinner is spun once, it will land on each number.

Number	1	2	3	4
Probability	0.12	x	$2x$	0.16

Nevan spins the spinner 500 times.

Work out the expected number of times that the spinner lands on an even number.

(Total for Question 7 is 4 marks)

- 8 Change a speed of 70 metres per second to a speed in kilometres per hour.
Show your working clearly.

..... km/h

(Total for Question 8 is 3 marks)

- 9 (a) Write 0.0651 in standard form.

.....
(1)

- (b) Work out $(4 \times 10^{56}) \times (8 \times 10^{74})$

Give your answer in standard form.

.....
(2)

(Total for Question 9 is 3 marks)



10 Solve the simultaneous equations

$$4x + 3y = 9$$

$$2x - 2y = -13$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 10 is 3 marks)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

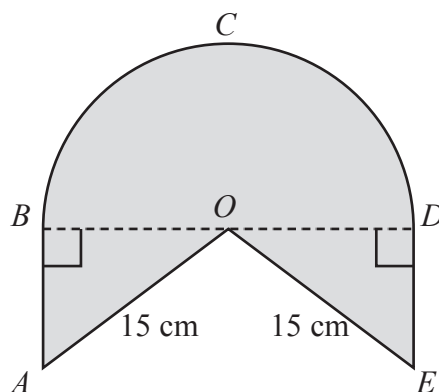
DO NOT WRITE IN THIS AREA

BLANK PAGE
TURN OVER FOR QUESTION 11



- 11 The diagram shows a shaded shape $ABCDEO$ made from a semicircle BCD and two identical right-angled triangles ABO and EDO

Diagram **NOT**
accurately drawn



BD is the diameter of the semicircle.

O is the midpoint of BD

angle $ABO = \text{angle } EDO = 90^\circ$ $AO = EO = 15 \text{ cm}$

The area of semicircle BCD is 227 cm^2

Work out the perimeter of the shaded shape.

Show your working clearly.

Give your answer correct to one decimal place.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

..... cm

(Total for Question 11 is 5 marks)



12 $\frac{2^{\frac{x}{3}}}{8^x} = 64$

- (a) Find the value of x
Show clear algebraic working.

$x = \dots\dots\dots$
(3)

- (b) Expand and simplify $4t(t + 5)(2t - 3)$

$\dots\dots\dots$
(3)

(Total for Question 12 is 6 marks)



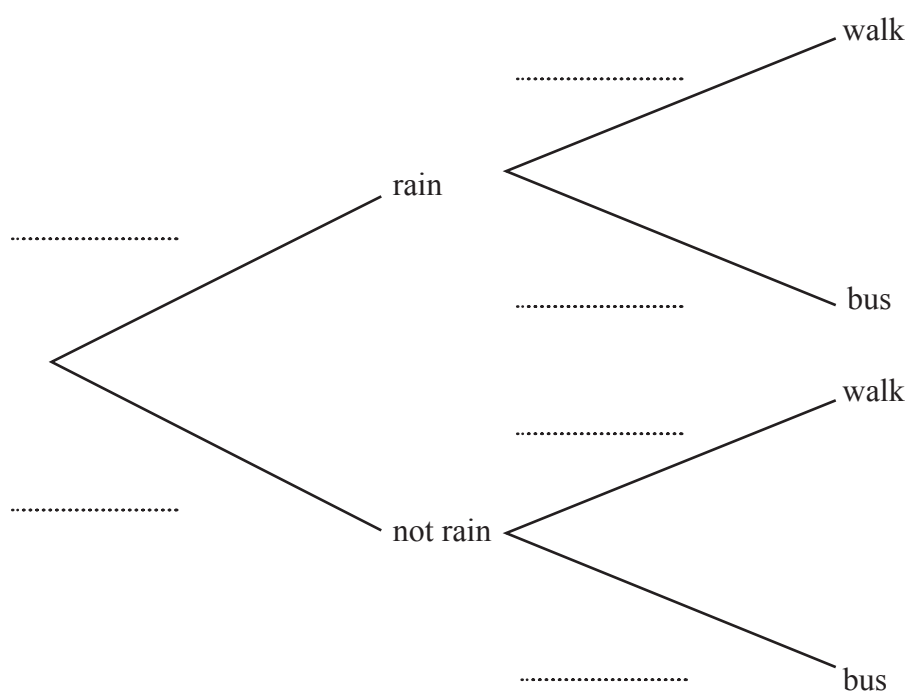
13 On any school day, Paulo either walks to school or travels by bus to school.

The probability that it rains on any school day is 0.15

If it rains on a school day, the probability that Paulo walks to school is 0.2

If it does not rain on a school day, the probability that Paulo walks to school is 0.75

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



(2)

(b) Work out the probability that on a school day, it rains and Paulo walks to school.

(2)

(Total for Question 13 is 4 marks)



- 14 In September, the sales in a shop increased by 20%
In October, the sales in the same shop decreased by $x\%$

Over these two months, the sales in the shop decreased by 10%

Work out the value of x

$x =$

(Total for Question 14 is 3 marks)

- 15 Point A has coordinates $(-3, 4)$
Point B has coordinates $(2, -6)$

Work out the gradient of the line AB

.....
(Total for Question 15 is 2 marks)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

16 The diagram shows triangle ABC

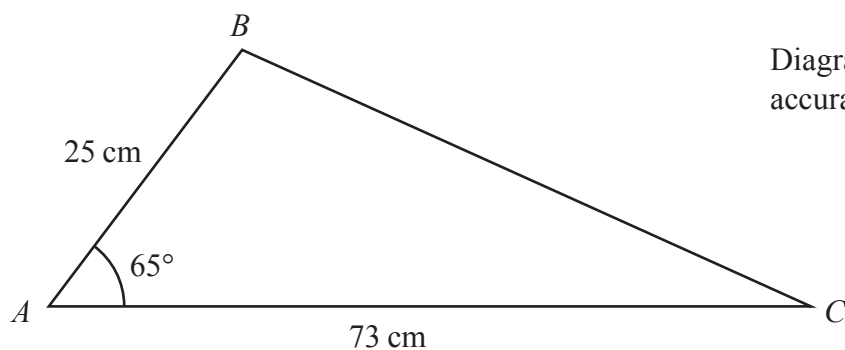


Diagram **NOT**
accurately drawn

$$AB = 25 \text{ cm}$$

$$AC = 73 \text{ cm}$$

$$\text{angle } BAC = 65^\circ$$

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

..... cm
(3)

- (b) Work out the area of the triangle.
Give your answer correct to 3 significant figures.

..... cm^2
(2)

(Total for Question 16 is 5 marks)



- 17 Show that $(4 - \sqrt{20})(5 - 2\sqrt{5})$ can be written in the form $a - \sqrt{b}$
where a and b are integers.

(Total for Question 17 is 3 marks)

- 18 Simplify fully $\frac{4x^2 - 9}{2x^2 - 5x - 12}$

Show clear algebraic working.

(Total for Question 18 is 3 marks)



19 M is directly proportional to p^2

$$M = 2 \text{ when } p = 5$$

(a) Find a formula for M in terms of p

.....
(3)

(b) Work out the value of M when $p = 15$

$$M = \text{.....}$$

(1)

(Total for Question 19 is 4 marks)



20 The final velocity, v m/s, of an object is given by

$$v = 2\left(\frac{s}{t}\right) - u$$

where

$s = 100$ correct to the nearest integer

$t = 1.68$ correct to 2 decimal places

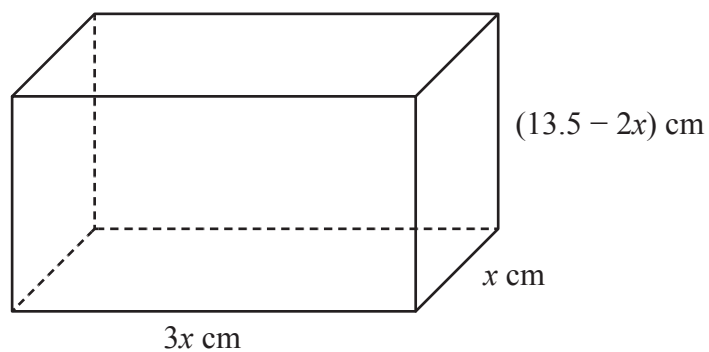
$u = 0.5$ correct to 1 decimal place

By considering bounds, work out the value of v to a suitable degree of accuracy.
Show your working clearly.

(Total for Question 20 is 5 marks)



- 21 The diagram shows a solid cuboid.



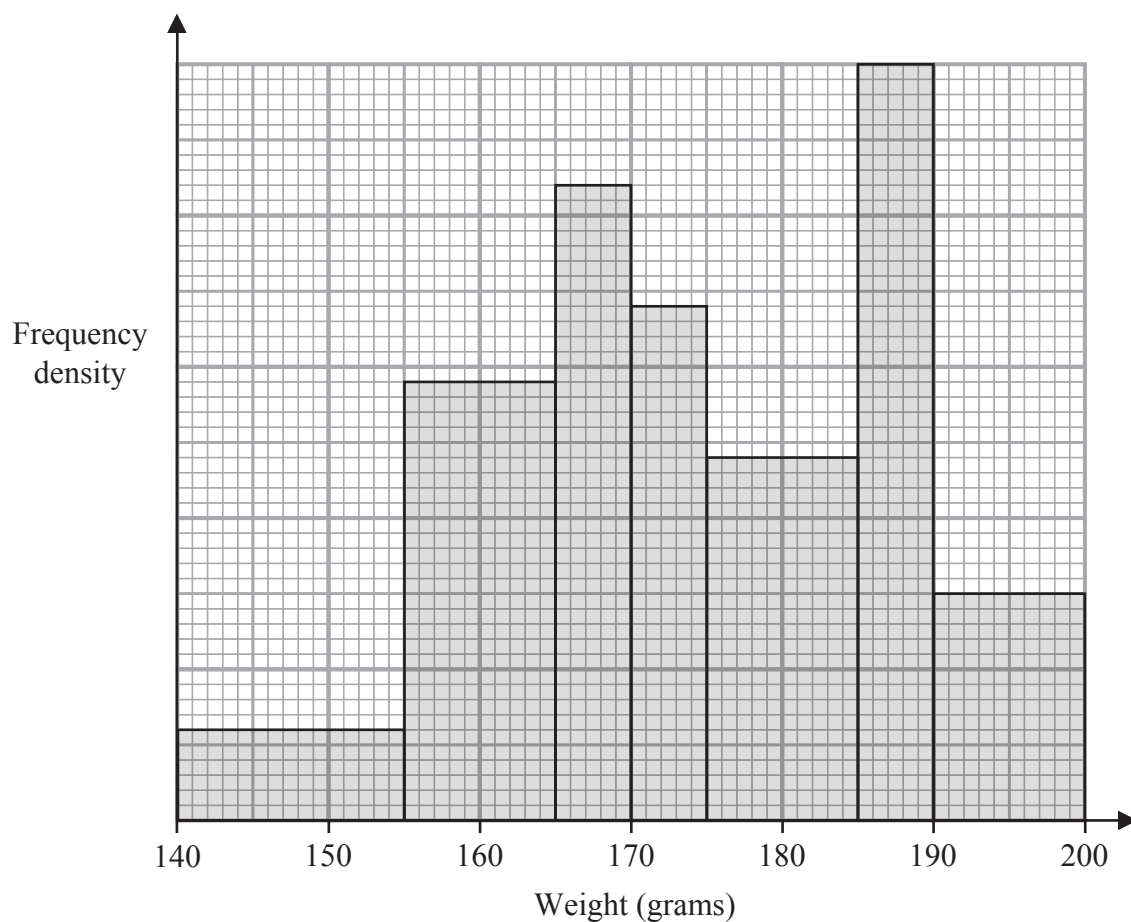
The volume of the cuboid is $V \text{ cm}^3$

Find the maximum value of V
Show clear algebraic working.

$$V = \dots\dots\dots$$

(Total for Question 21 is 5 marks)

22 The histogram gives information about the weights, in grams, of all the apples in a shop.



There are 9 apples with a weight between 140 grams and 155 grams.

(a) Work out the number of apples with a weight less than 175 grams.

(3)

An apple is classified as a large apple if it has a weight of more than 180 grams.
One of the large apples is chosen at random.

- (b) Work out the probability that it has a weight of more than 190 grams.

.....
(2)

(Total for Question 22 is 5 marks)



- 23 A bag contains x marbles.
12 of the marbles are pink and the rest are yellow.

Greta takes at random 2 marbles from the bag.

The probability that Greta takes a pink marble and a yellow marble is $\frac{18}{47}$

Work out the value of x
Show clear algebraic working.

$x = \dots\dots\dots$

(Total for Question 23 is 5 marks)



24 (a) Express $10 - 24x - 3x^2$ in the form $a - b(x + c)^2$ where a , b and c are integers.

.....
(3)

T is the curve with equation $y = 10 - 24(x - 1) - 3(x - 1)^2$
The point P is the maximum point on **T**

(b) Use your answer to part (a) to find the coordinates of P

(..... ,)
(1)

(c) Write down the equation for the line of symmetry of **T**

.....
(1)

(Total for Question 24 is 5 marks)



- 25 The diagram shows a triangular prism $ABCDEF$ with horizontal rectangular base $ABCD$. F is vertically above A .

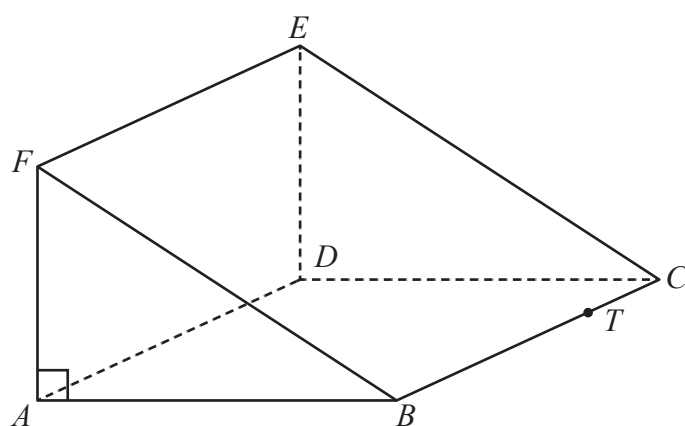


Diagram **NOT**
accurately drawn

$$AF = 12 \text{ cm}$$

$$\text{angle } ABF = 30^\circ$$

$$\text{angle } BAF = 90^\circ$$

T is the point on the line BC such that $BF : BT = 3 : 2$

Work out the size of the angle between the line FT and the plane $ABCD$.

Give your answer correct to one decimal place.

Show your working clearly.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 25 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

