

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.

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International GCSE Mathematics
Formulae sheet – Higher Tier

Arithmetic series

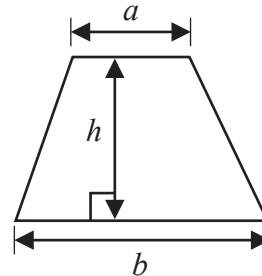
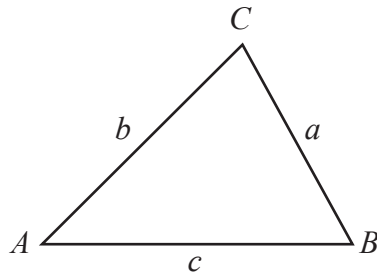
Sum to n terms, $S_n = \frac{n}{2} [2a + (n-1)d]$

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**

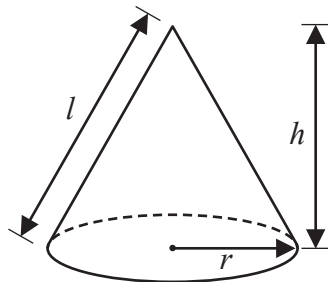
$$\text{Sine Rule} \quad \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

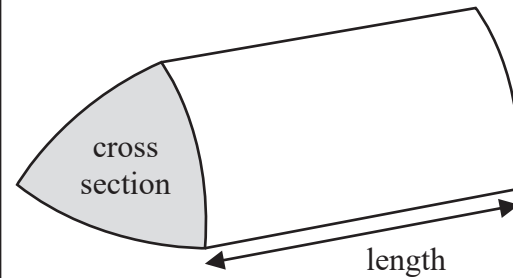
$$\text{Area of triangle} = \frac{1}{2}ab \sin C$$

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

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

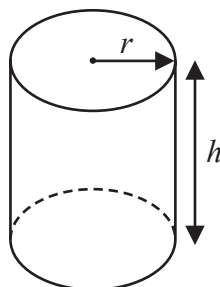
**Volume of prism**

= area of cross section $\times$ length



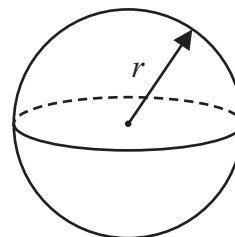
$$\text{Volume of cylinder} = \pi r^2 h$$

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



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

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



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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

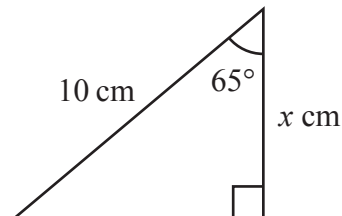


Diagram **NOT**
accurately drawn

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

$x = \dots\dots\dots$

(Total for Question 2 is 3 marks)



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)



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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)

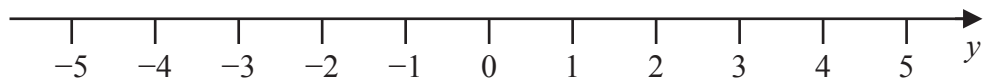
(b) Expand and simplify $(f + 3)(f - 6)$

(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)



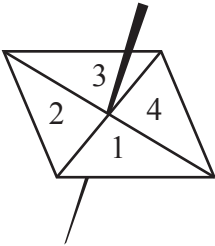
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6 Simplify $(4x^5y^6)^3$

(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.

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(Total for Question 7 is 4 marks)



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- 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)

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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

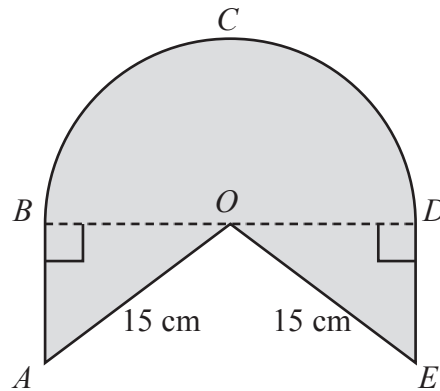


Diagram **NOT**
accurately drawn

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.

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..... cm

(Total for Question 11 is 5 marks)



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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)



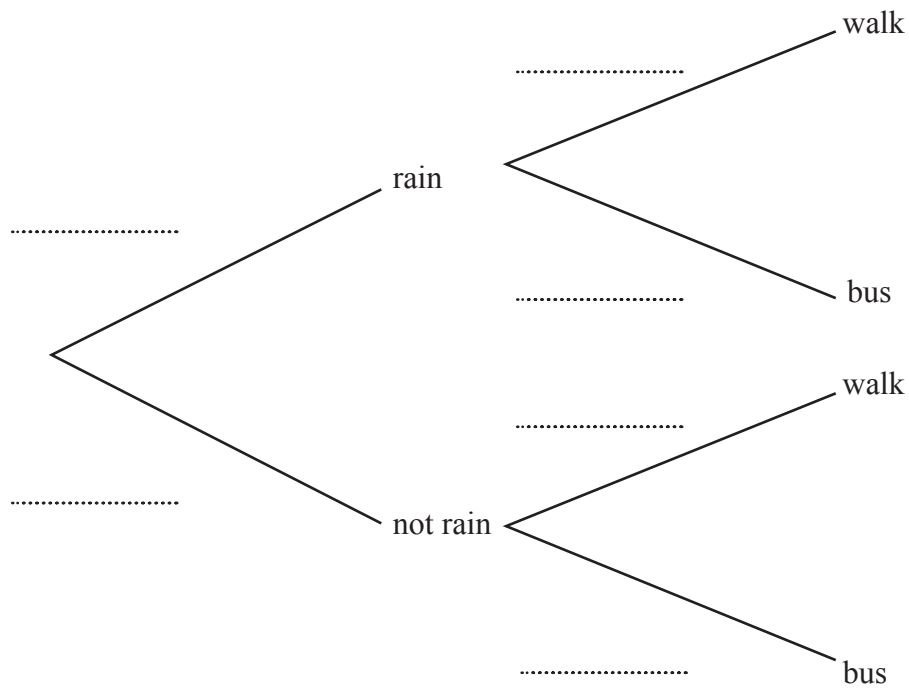
13 On any school day, Paulo either walks to school or travels by bus to school.

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)



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- 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)

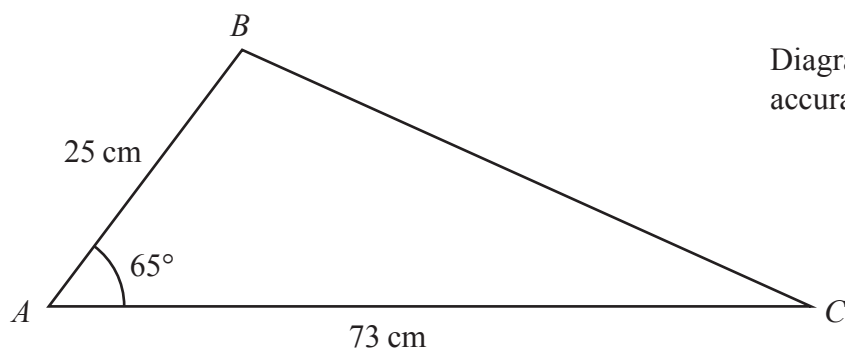
- 15 Point A has coordinates $(-3, 4)$
Point B has coordinates $(2, -6)$

Work out the gradient of the line AB

(Total for Question 15 is 2 marks)



16 The diagram shows triangle ABC



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

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

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

- (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)



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- 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)



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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.

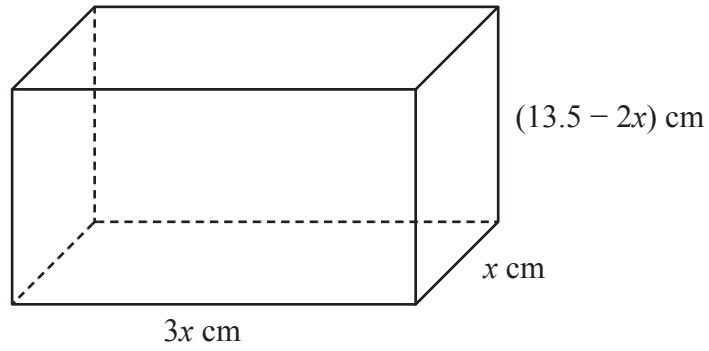


Diagram **NOT**
accurately drawn

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

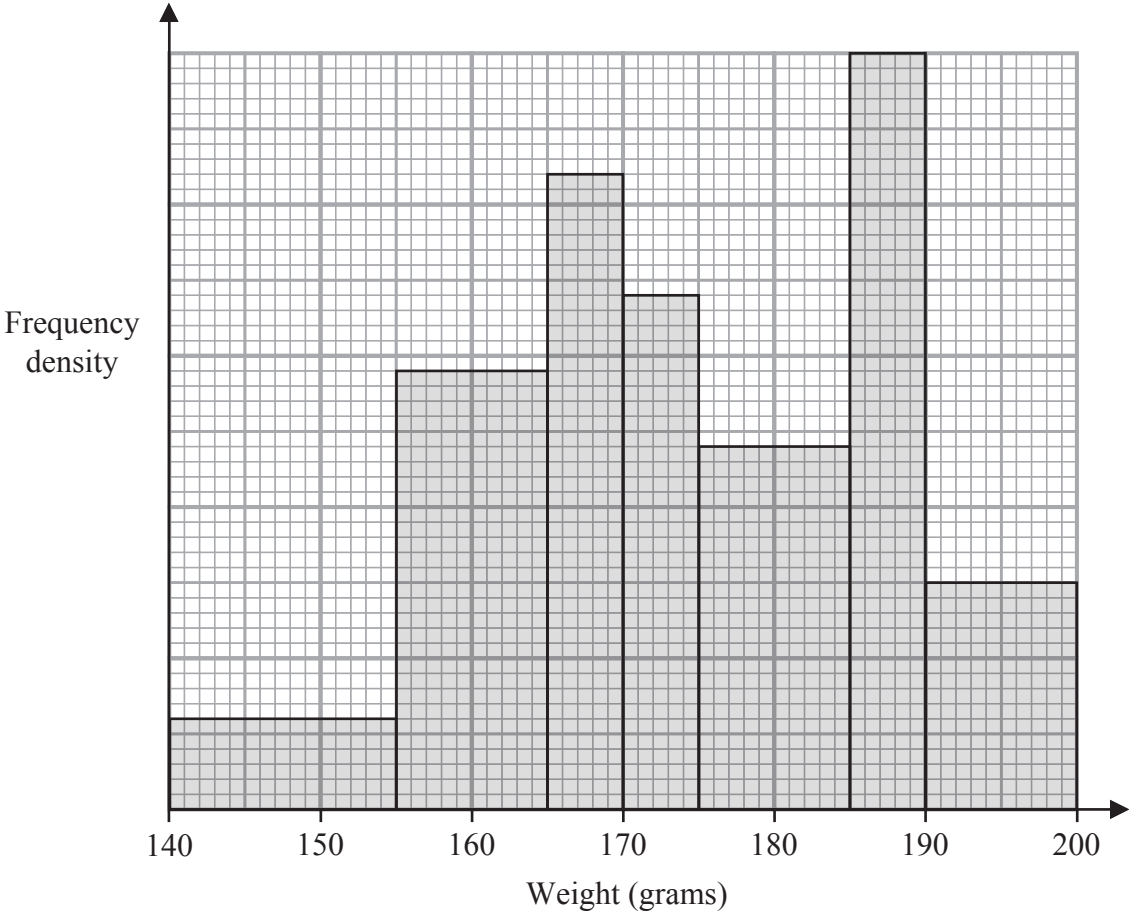
Find the maximum value of V
Show clear algebraic working.

$V = \dots\dots\dots$

(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)

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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)



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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 .

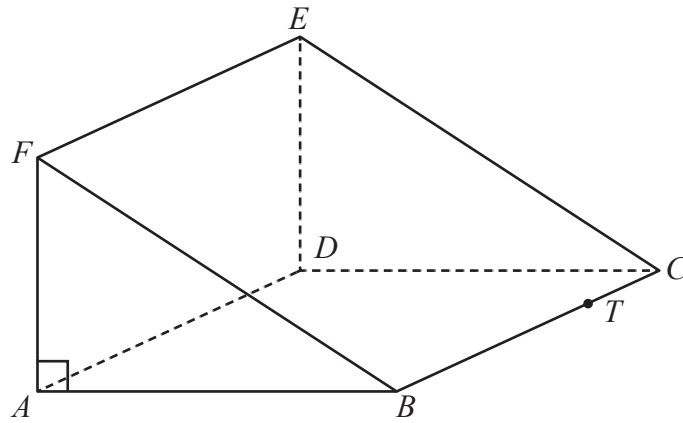


Diagram **NOT**
accurately drawn

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

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

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

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.

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(Total for Question 25 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS



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