

Please check the examination details below before entering your candidate information

Candidate surname					Other names				
Centre Number					Candidate Number				
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Pearson Edexcel International GCSE

Wednesday 13 May 2026

Afternoon (Time: 1 hour 30 minutes) **Paper reference** **4MB1/01**

Mathematics B
PAPER 1



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.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- **Calculators may be used.**

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.
- Without sufficient working, correct answers may be awarded no marks.

Turn over ►

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Answer ALL TWENTY SIX questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Solve the inequality $6x < 20 - 2x$

.....
(Total for Question 1 is 2 marks)

- 2** Factorise fully $8ab - 28a$

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

- 3** Find the Lowest Common Multiple (LCM) of 60 and 84
Show all your working.

.....
(Total for Question 3 is 2 marks)

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- 4 (a) Write down the number from the list that is a natural number.

-3 $\frac{1}{6}$ 4 4.5 π

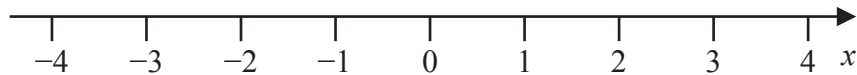
.....
(1)

- (b) Write down an irrational number between 1 and 2

.....
(1)

(Total for Question 4 is 2 marks)

- 5 Show on the number line the inequality $-2 < x \leq 3$



(Total for Question 5 is 2 marks)

- 6 Each time Ishan plays a game, the probability that he wins is 0.64
Ishan plays the game 50 times.

Calculate the expected number of games Ishan does **not** win.

.....
(Total for Question 6 is 2 marks)



7

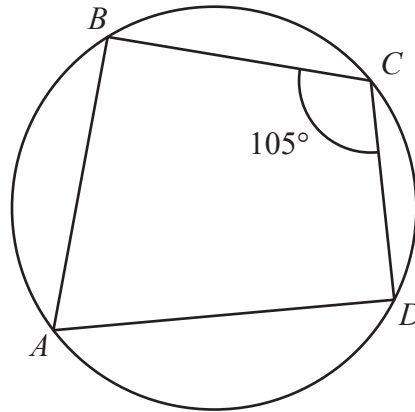


Diagram **NOT**
accurately drawn

In the diagram A , B , C and D are points on a circle.

$$\angle BCD = 105^\circ$$

Find the size, in degrees, of $\angle BAD$

Give a reason for your answer.

(Total for Question 7 is 2 marks)



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- 8 The price of a yacht is reduced by 16% in a sale.

Leda pays \$15 700 of the sale price when she orders the yacht.
She pays the remainder of the sale price in 10 equal payments of \$2000

Calculate the price of the yacht before the sale.

\$.....

(Total for Question 8 is 3 marks)

- 9 Write as a single fraction in its simplest form

$$\frac{4x - 3}{3} - \frac{2x + 5}{2}$$

Show clear algebraic working.

(Total for Question 9 is 3 marks)



10 Zahra records the time, t hours, some people spend watching television each day.

Her results are shown in the table below.

Time (t hours)	Frequency
$0 \leq t < 2$	13
$2 \leq t < 4$	20
$4 \leq t < 7$	27

She draws a histogram for the information in the table.

In the histogram

the bar for the class interval $4 \leq t < 7$ is a square with sides of length 4.5 cm

the bar for the class interval $2 \leq t < 4$ is a rectangle of width w cm and height h cm

Find the value of w and the value of h

$w =$

$h =$

(Total for Question 10 is 3 marks)

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11 Rima sells green pens, red pens and blue pens only.

On Saturday, a total of 200 pens are sold by Rima.

The ratio of the number of green pens sold to the number of red pens sold is 3 : 5

The ratio of the number of green pens sold to the number of blue pens sold is 2 : 3

Calculate the number of **red** pens sold by Rima on Saturday.

.....
(Total for Question 11 is 3 marks)



12 $x = 4 \times 10^{-105}$ and $y = 3.2 \times 10^{64}$

(a) Calculate xy

Give your answer in standard form.

.....
(2)

(b) Calculate $\frac{y}{x}$

Give your answer in standard form.

.....
(2)

(Total for Question 12 is 4 marks)



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- 13 x is directly proportional to $\sqrt{w}$
 y is inversely proportional to w

$$x = 2 \text{ when } y = 16$$

Find a formula for y in terms of x

.....
(Total for Question 13 is 4 marks)



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14 Quadrilateral A is transformed to quadrilateral B under a reflection in the y -axis.
Quadrilateral B is transformed to quadrilateral C under an enlargement with centre $(0, 0)$ and scale factor 4

Quadrilateral C is the image of quadrilateral A under the matrix N

Find the matrix N
Show all your working.

(Total for Question 14 is 4 marks)



15 Make x the subject of

$$\frac{2}{x} - \frac{2}{x+4} = \frac{8}{y} \quad \text{where } x \text{ and } y \text{ are positive integers.}$$

Give your answer in the form $a + \sqrt{y+b}$ where a and b are integers.

Show clear algebraic working.

(Total for Question 15 is 4 marks)



16

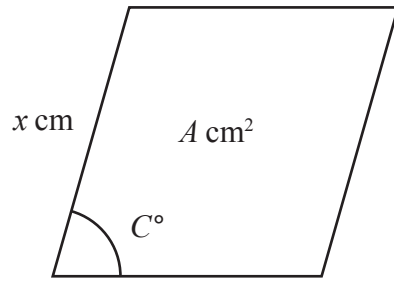


Diagram **NOT**
accurately drawn

The diagram shows a rhombus of area $A \text{ cm}^2$ in which

$x = 8.4$ to 1 decimal place

$A = 50$ to 1 significant figure

Given that the angle marked C° is an acute angle,

find the upper bound, to 3 significant figures, of C

Show all your working.

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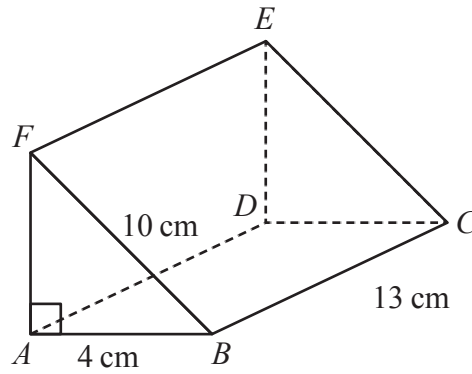
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(Total for Question 16 is 4 marks)



17

Diagram **NOT**
accurately drawn

The diagram shows a right triangular prism $ABCDEF$

$$AB = 4 \text{ cm} \quad BC = 13 \text{ cm} \quad FB = 10 \text{ cm} \quad \angle FAB = 90^\circ$$

Calculate the volume, in cm^3 to the nearest integer, of the triangular prism.

..... cm^3

(Total for Question 17 is 4 marks)



P 8 1 3 3 2 A 0 1 3 2 4

18 The n th term of a sequence is given by $10 + 6n$

(a) Find the sum of the 3rd term and the 7th term of this sequence.

.....
(2)

For a different sequence the first five terms are

7 11 15 19 23

(b) Write down a formula for the n th term of this sequence.

.....
(2)

Ian says there are no numbers that are in both the sequence in part (a) and the sequence in part (b).

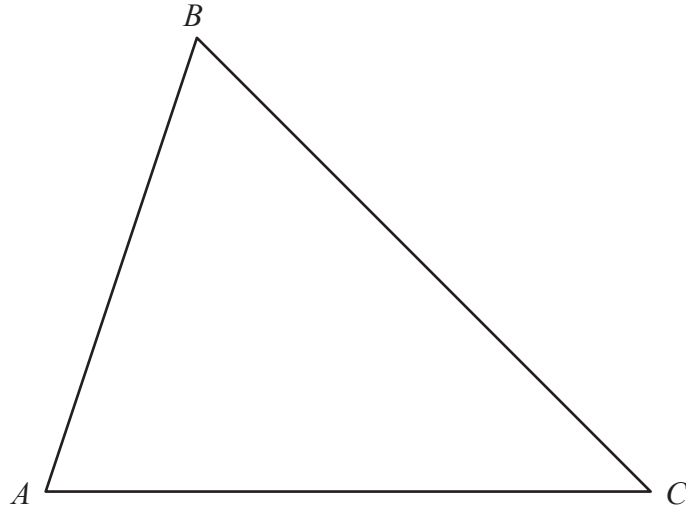
(c) Explain why Ian is correct.

.....
(1)

(Total for Question 18 is 5 marks)



19



The diagram shows triangle ABC

- (a) Construct the locus of all points inside the triangle that are 7 cm from C (1)
- (b) Construct the locus of all points inside the triangle that are 3 cm from AC (1)
- (c) Using ruler and compasses only and **showing all your construction lines**, construct the locus of all points inside the triangle that are equidistant from AB and AC (2)

The region R consists of all the points inside the triangle that are less than 7 cm from C , nearer to AB than to AC and more than 3 cm from AC

- (d) Show, by shading, the region R (1)

(Total for Question 19 is 5 marks)



P 8 1 3 3 2 A 0 1 5 2 4

- 20 (a) Without using a calculator and showing your working clearly, express

$$\sqrt{700} - \sqrt{343}$$

in the form $\sqrt{a}$ where a is an integer.

(2)

- (b) Without using a calculator and showing your working clearly, express

$$\frac{\sqrt{3} - \sqrt{5}}{\sqrt{3} + \sqrt{5}}$$

in the form $c + \sqrt{d}$ where c and d are integers.

(3)

(Total for Question 20 is 5 marks)



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21 **A** and **B** are two mathematically similar solids.

The volume of **A** is $324\,000\text{ cm}^3$

The volume of **B** is $12\,000\text{ cm}^3$

The total surface area of **A** is 3^{x+6} cm^2

The total surface area of **B** is 9^x cm^2

Given that the height of **B** is 5^x cm

find, in cm, the height of **A**

Show all your working.

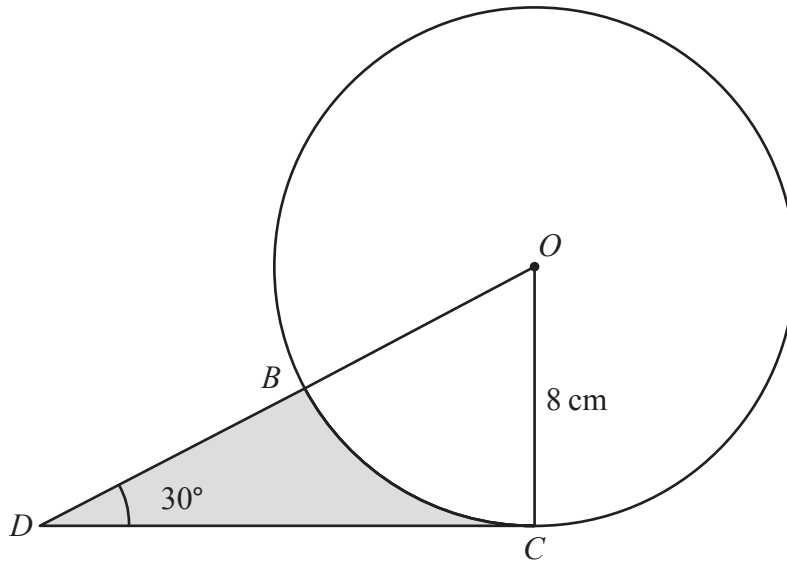
..... cm

(Total for Question 21 is 5 marks)



P 8 1 3 3 2 A 0 1 7 2 4

22

Diagram **NOT**
accurately drawn

In the diagram B and C are points on a circle centre O

The point D is such that DBO is a straight line.
 DC is the tangent to the circle at C

$$CO = 8 \text{ cm and } \angle ODC = 30^\circ$$

The region inside OCD but outside of the sector OBC is shaded.

Calculate the area, in cm^2 to 3 significant figures, of this shaded region.
 Show all your working.

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..... cm²

(Total for Question 22 is 5 marks)

23 (a) Simplify $w^3 \times w^{-5}$

.....
(1)

(b) Simplify $5x^0$

.....
(1)

(c) Simplify fully $(8a^3b^9)^{\frac{1}{3}}$

.....
(2)

(d) Simplify fully $\frac{(36c^4d^2)^{\frac{1}{2}}}{3c^{-5}d^3}$

.....
(3)

(Total for Question 23 is 7 marks)



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24 Zaid has two bags of marbles, *A* and *B*

There are 10 marbles in bag *A* and 15 marbles in bag *B*

In bag *A*, there are 5 red marbles, 3 blue marbles and 2 yellow marbles.

In bag *B*, there are 6 red marbles, 2 blue marbles and 7 purple marbles.

Zaid takes at random one marble from bag *A* and one marble from bag *B*

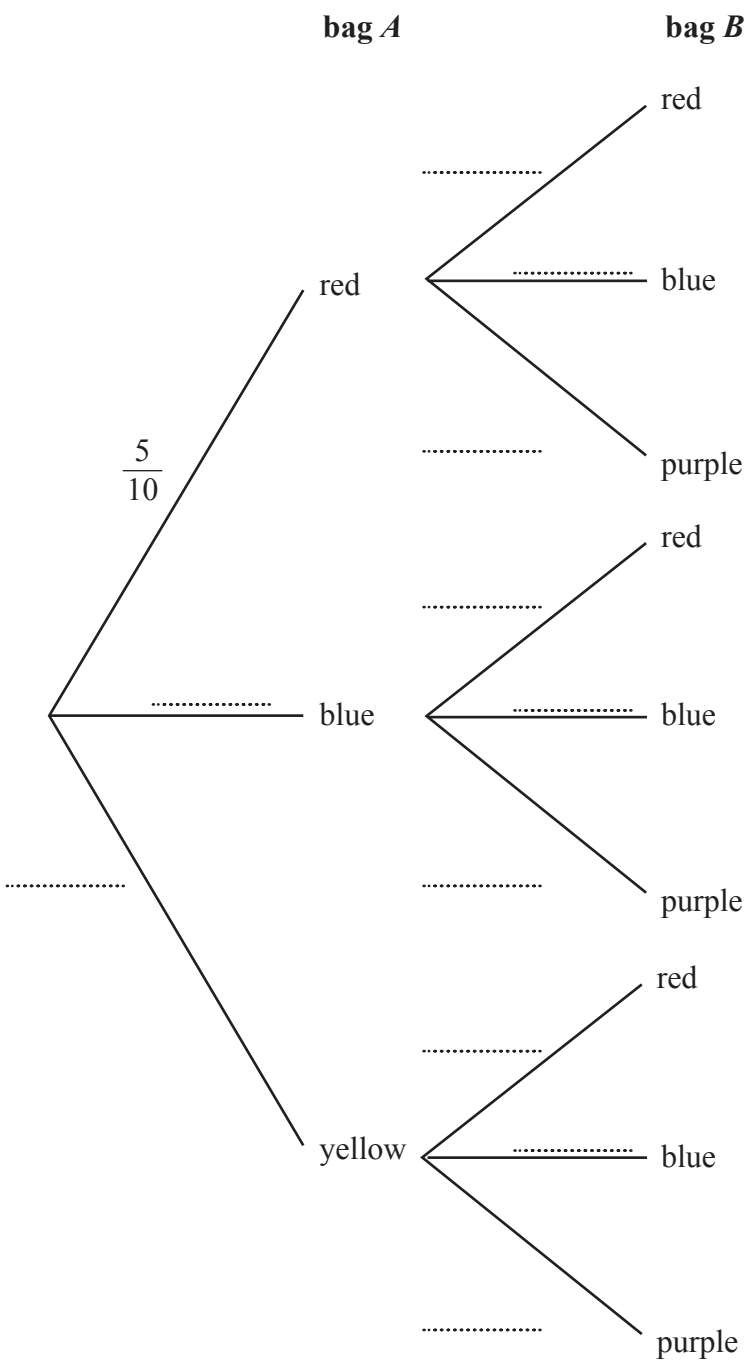
- (a) Complete the probability tree diagram on the opposite page.

(3)
- (b) Calculate the probability that the two marbles are **not** the same colour.

(3)



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(Total for Question 24 is 6 marks)

25 A , X and Y are three points on horizontal ground.

AB is a vertical mast with height 45 m

X is 2000 m due west of A

The bearing of Y from A is 320°

The angle of elevation of B from Y is 10°

Calculate, to the nearest degree, the bearing of X from Y

Show all your working.

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.....°

(Total for Question 25 is 6 marks)

Turn over for Question 26



26 Solve the simultaneous equations

$$\begin{aligned}x^2 &= 2 - y^2 \\ 3y - x &= 4\end{aligned}$$

Show clear algebraic working.

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(Total for Question 26 is 6 marks)

TOTAL FOR PAPER IS 100 MARKS

