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MATHEMATICS

0580/12

Paper 1 Non-calculator (Core)

February/March 2026

1 hour 30 minutes

You must answer on the question paper.

You will need: Geometrical instruments

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen. Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- Calculators must not be used in this paper.
- You may use tracing paper.
- You must show all necessary working clearly.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [].

This document has **16** pages. Any blank pages are indicated.

**List of formulas**

Area, A , of triangle, base b , height h .

$$A = \frac{1}{2}bh$$

Area, A , of circle of radius r .

$$A = \pi r^2$$

Circumference, C , of circle of radius r .

$$C = 2\pi r$$

Curved surface area, A , of cylinder of radius r , height h .

$$A = 2\pi rh$$

Curved surface area, A , of cone of radius r , sloping edge l .

$$A = \pi rl$$

Surface area, A , of sphere of radius r .

$$A = 4\pi r^2$$

Volume, V , of prism, cross-sectional area A , length l .

$$V = Al$$

Volume, V , of pyramid, base area A , height h .

$$V = \frac{1}{3}Ah$$

Volume, V , of cylinder of radius r , height h .

$$V = \pi r^2 h$$

Volume, V , of cone of radius r , height h .

$$V = \frac{1}{3}\pi r^2 h$$

Volume, V , of sphere of radius r .

$$V = \frac{4}{3}\pi r^3$$





Calculators must **not** be used in this paper.

- 1 (a) Subtract 9 from 1321.

$$\begin{array}{r}
 1321 \\
 - 9 \\
 \hline
 1312
 \end{array}$$

..... 1312 [1]

- (b) Divide 814 by 2.

$$\begin{array}{r}
 2 \overline{) 814} \quad (407 \\
 \underline{- 8} \\
 14 \\
 \underline{- 14} \\
 0 \\
 \times \times
 \end{array}$$

..... 407 [1]

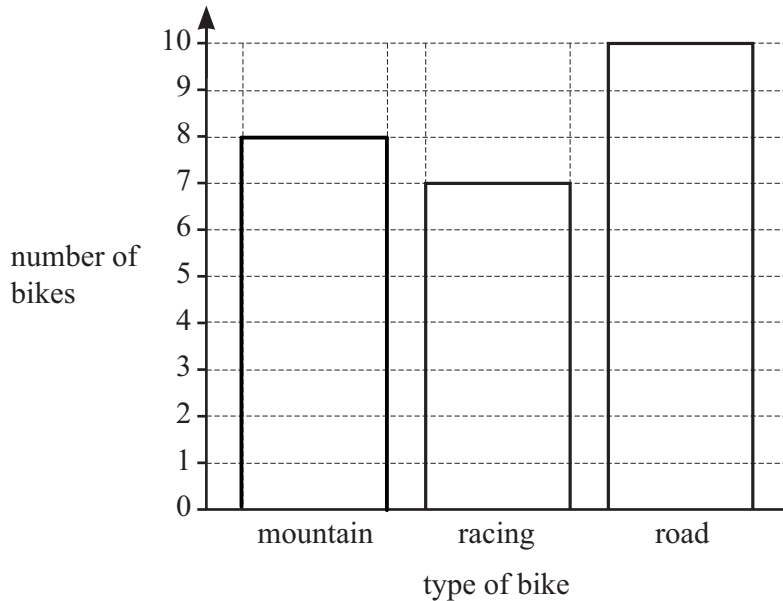
- (c) Write down the multiple of 6 that is nearest to 20.

$$6, 12, 18, 24$$

18

..... 18 [1]

- 2 25 people own a bike.
 Flo asks each of these 25 people what type of bike they own.
 The bar chart shows some of these results.



- (a) Complete the bar chart for the mountain bikes. [2]

- (b) How many more people own a road bike than own a racing bike?

..... 3 [1]



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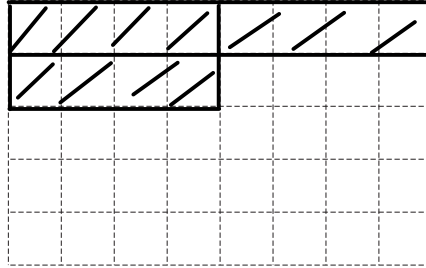
3 (a) Write 0.47 as a percentage.

..... 47 % [1]

(b) Write $\frac{9}{100}$ as a decimal.

..... 0.09 [1]

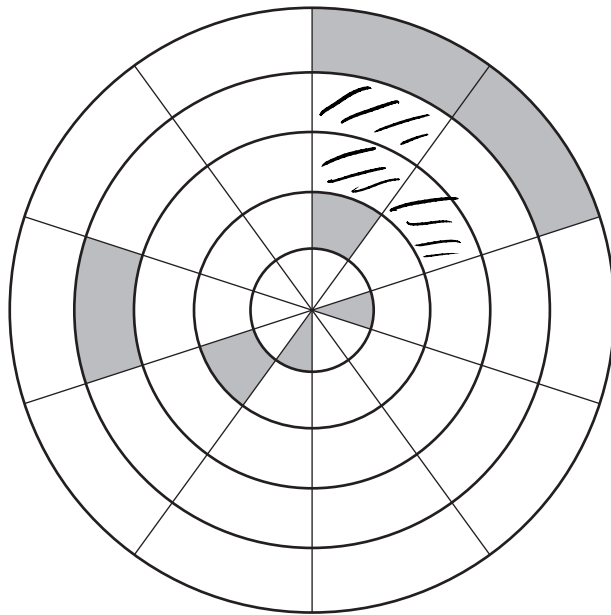
4 (a)



Shade $\frac{3}{10}$ of the squares on the grid.

[1]

(b)



7 of the regions are shaded.

Shade 3 more regions so that $\frac{1}{5}$ of the total area is shaded.

[1]





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5 (a) These are the first four terms of a sequence.

6000 600 60 6

Write down the term-to-term rule for this sequence.

$t_{n+1} = t_n / 10$ [1]

(b) These are the first four terms of a different sequence.

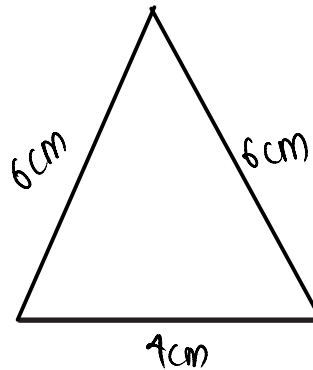
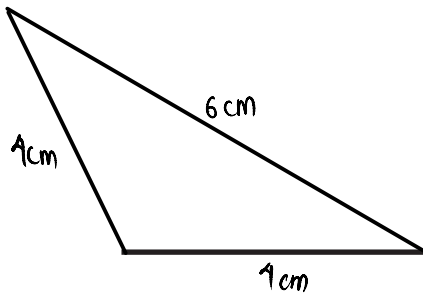
27 21 15 9

Find the next two terms in the sequence.

..... 3 , -3 [2]

6 An isosceles triangle has a side length 4 cm and a side length 6 cm. There are two possible triangles that can be drawn that are **not** congruent to each other.

Construct these two triangles.
One 4 cm side has been drawn for each of the triangles.



[4]





7 Krish has $6x + 4$ marbles.
Jo has $9 - x$ marbles.

(a) Write down an expression for the total number of marbles that Krish and Jo have.
Give your answer in its simplest form.

$$6x + 4 + 9 - x$$
$$5x + 13$$

..... $5x + 13$ [2]

(b) Krish has more marbles than Jo.

Write down an expression for how many more marbles Krish has than Jo.
Give your answer in its simplest form.

$$6x + 4 - (9 - x)$$
$$6x + 4 - 9 + x$$

..... $7x - 5$ [2]

8 Write down the two prime numbers that are greater than 20 but less than 30.

..... 23 , 29 [2]

9 (a) Work out the difference between 5^2 and 2^3 .

$$5^2 - 2^3$$
$$= 25 - 8$$
$$= 17$$

..... 17 [2]

(b) Write down the reciprocal of 4.

$$\frac{1}{4} = 0.25$$

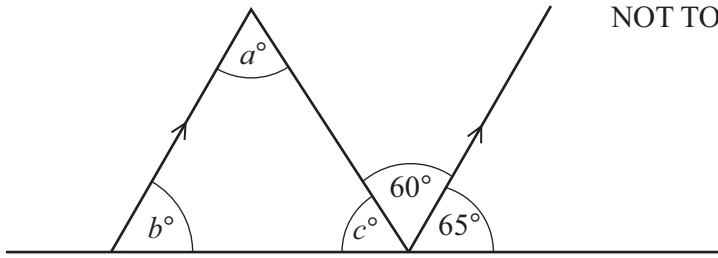
..... 0.25 [1]

(c) Write down an irrational number that is between 4 and 5.

..... $\sqrt{20}$ [1]



10



Work out the values of a , b and c .

$a = 60$
 $b = 65$
 $c = 55$

[3]

11 Put **one** pair of brackets into each calculation to make it correct.

(a) $6 \times (5 - 3 + 5) = 42$ [1]

(b) $4 - (80 + 20) \div 10 = -6$ [1]

12 Write 9×27 as a power of 3.

9×27
 $= 3^2 \times 3^3$
 $= 3^5$

3^5 [2]

13 Work out $\sqrt{0.0025}$.

$\sqrt{\frac{25}{10000}} = \frac{5}{100} = 0.05$

0.05 [1]





14 A school records the number of students who are late on each of 12 days.

17	1	23	14	18	8
8	12	10	5	22	19

Complete the stem-and-leaf diagram.

0	1	5	8	8		
1	0	2	4	7	8	9
2	2	3				

key : 1 | 7 represents 17 students

[2]

15 The probability that Jai wins a game is 0.7 .

(a) Find the probability that he does not win a game.

.....0.3..... [1]

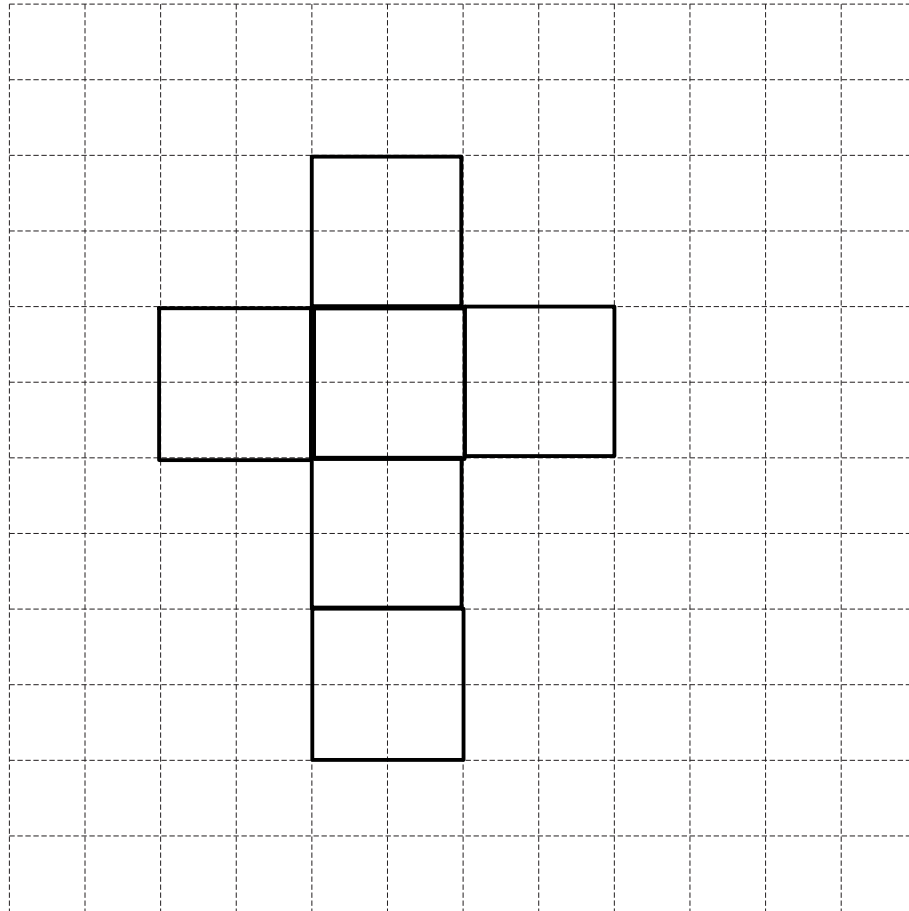
(b) Jai plays 50 games.

Work out the number of games he is expected to win.

50 x 0.7

.....35..... [1]





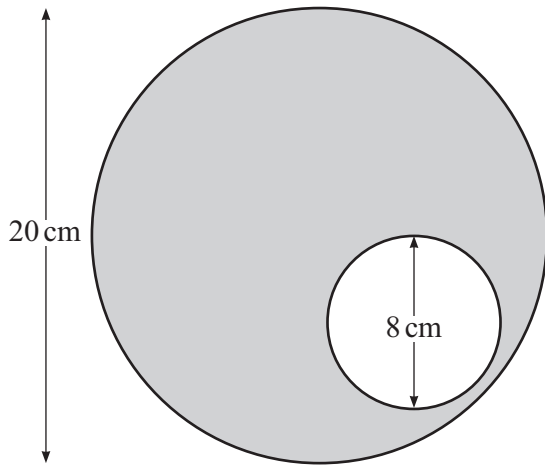
A cube has volume 8 cm^3 .

On the 1 cm^2 grid, draw a net for this cube.

[3]



17 The diagram shows two circles.



NOT TO SCALE

The small circle has diameter 8 cm.
The large circle has diameter 20 cm.

Work out the shaded area.
Give your answer in terms of π .

$$\begin{aligned}
 \text{Area} &= \pi \times 10^2 - \pi \times 4^2 \\
 &= 100\pi - 16\pi \\
 &= 84\pi
 \end{aligned}$$

..... 84π cm^2 [3]

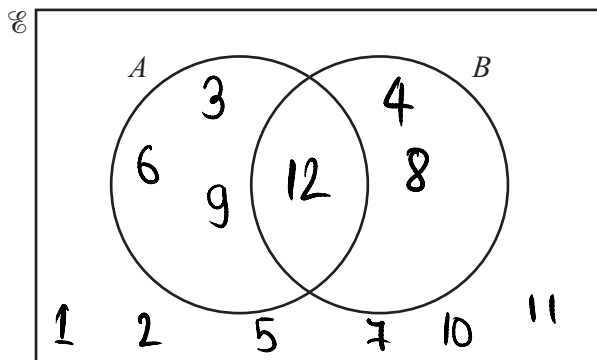
18 Factorise.

$$\begin{aligned}
 &9x^3 - 6x \\
 &3x(3x^2 - 2)
 \end{aligned}$$

..... $3x(3x^2 - 2)$ [2]



- 19 $\mathcal{U} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$
 $A = \{\text{multiples of 3}\}$
 $B = \{\text{multiples of 4}\}$



- (a) Complete the Venn diagram. [2]
- (b) Write down $n(A \cap B)$.

..... 12

[1]

- 20 Solve the simultaneous equations.

$$\begin{cases} (-5x - 7y = 1) \times 6 \\ (6x + 8y = -2) \times 5 \end{cases}$$

$$-30x - 42y = 6$$

$$30x + 40y = -10$$

$$-2y = -4$$

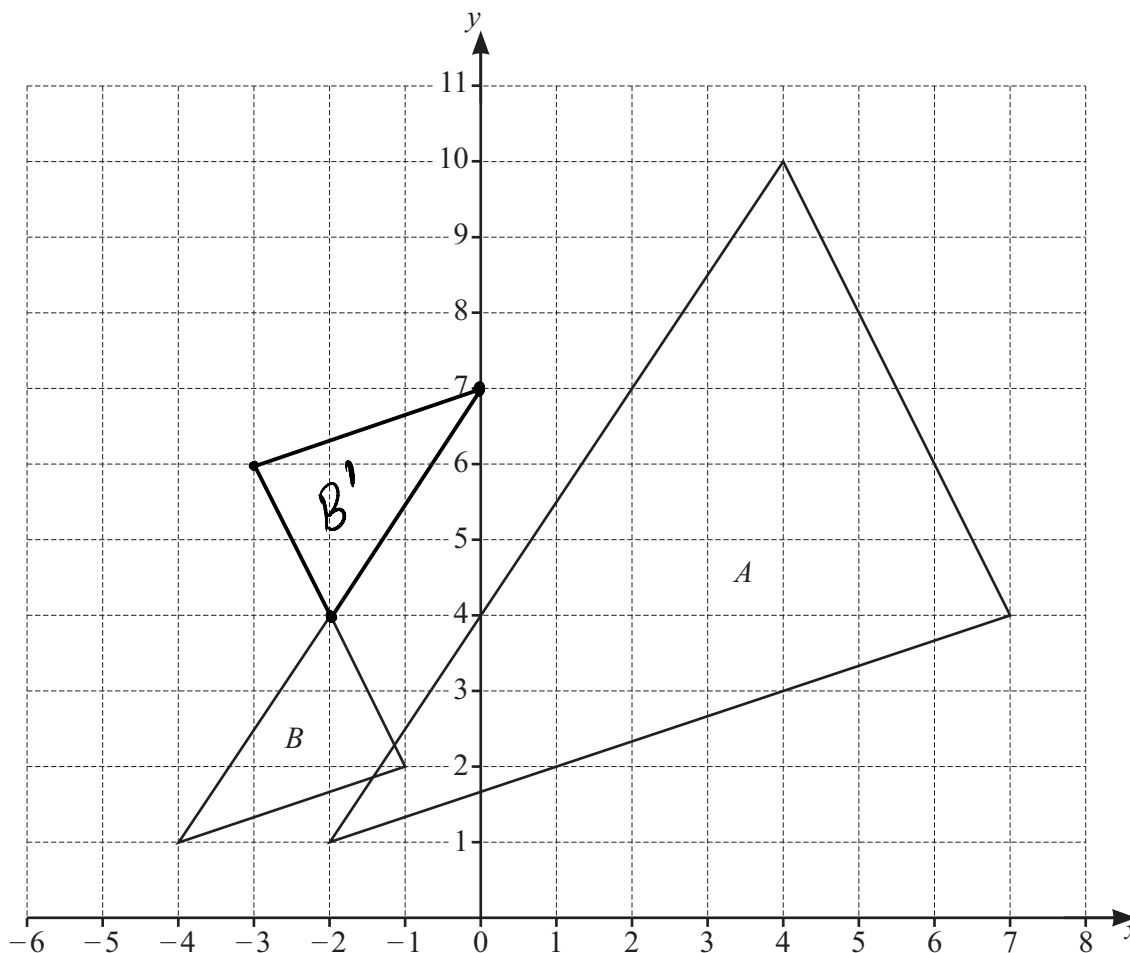
$$y = 2 \Rightarrow x = \frac{-2 - 16}{6} = \frac{-18}{6} = -3$$

$x = -3$

$y = 2$

[4]

21 The diagram shows two triangles, A and B , on a 1 cm^2 grid.



(a) Describe fully the **single** transformation that maps triangle A onto triangle B .

..... Enlargement with scale factor $\frac{1}{3}$ and centre $(-5, 1)$

..... [3]

(b) On the grid, draw the image of triangle B after a rotation 180° , centre $(-2, 4)$.

[2]

(c) Triangle A is reflected in the line $x = 7$.

Work out the coordinates of the vertices of triangle A , after this reflection.

(..... 7 , 10), (..... 7 , 4), (..... 16 , 1) [3]





22 (a) Expand the brackets and simplify.

$(2x + 5)(x + 3)$

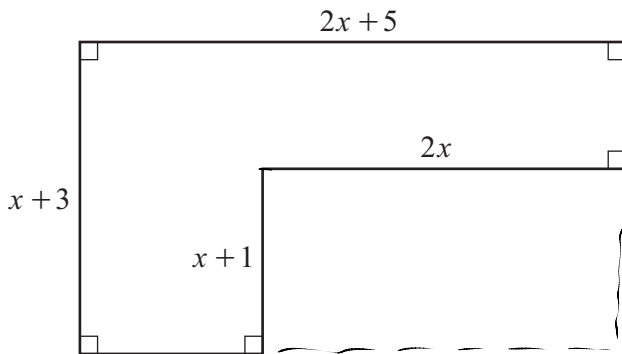
$2x(x + 3) + 5(x + 3)$

$2x^2 + 6x + 5x + 15$

$2x^2 + 11x + 15$

$2x^2 + 11x + 15$ [2]

(b)



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Find an expression for the area of this shape.
Give your answer in its simplest form.

$(2x + 5)(x + 3) - (x + 1)(2x)$

~~$2x^2 + 11x + 15 - 2x^2 - 2x$~~

$9x + 15$

$9x + 15$ [3]



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- 23 The height, h metres, of a tree is 37.4 m, correct to the nearest 10 centimetres.

Complete this statement about the value of h .

$$37.4 - 0.05 = 37.35$$

$$37.4 + 0.05 = 37.45$$

$$\dots\dots\dots 37.35 \dots\dots \leq h < \dots\dots\dots 37.45 \dots\dots [2]$$

- 24 Complete these statements.
Give your answers in standard form.

(a) $2.5 \times 1000 \times 100 \text{ cm} = 2.5 \times 10^5 \text{ cm}$

2.5 km is the same as $\dots\dots\dots 2.5 \times 10^5 \dots\dots\dots$ cm. [2]

(b) $30 \text{ cm}^3 = \frac{30}{1000} \text{ litres} = 3 \times 10^{-2} \text{ litres}$

30 cm^3 is the same as $\dots\dots\dots 3 \times 10^{-2} \dots\dots\dots$ litres. [2]

- 25 By writing each number in the calculation correct to 1 significant figure, work out an estimate for the value of

$$\frac{0.43 \times 22.8}{13.7} \cdot \frac{0.4 \times 20}{10} = 0.8$$

$$\dots\dots\dots 0.8 \dots\dots\dots [2]$$





26 Work out $3\frac{3}{5} \times 2\frac{2}{9}$.

Give your answer in its simplest form.

$\frac{18}{5} \times \frac{20}{9}$

8

.....8..... [3]

27 (a) A teacher asks a student to make x the subject of the formula $y = \frac{x}{5} + 2$. Their working is shown in the box below, but it is **not** correct.

$y = \frac{x}{5} + 2$	line A
$5y = x + 2$	line B
$5y - 2 = x$	line C
$x = 5y - 2$	line D

Complete this statement.

Line B is **not** correct because you need to multiply all 3 terms by 5 but here only $\frac{x}{5}$ and y are multiplied not 2. [1]

(b) Make p the subject of the formula.

$A = pt^2$

$p = \frac{A}{t^2}$

$p = \frac{A}{t^2}$ [1]



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