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**MATHEMATICS****0580/11**

Paper 1 Non-calculator (Core)

**May/June 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.

## 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

|       |             |   |       |   |              |    |    |    |    |      |
|-------|-------------|---|-------|---|--------------|----|----|----|----|------|
| 1.694 | $\sqrt{18}$ | 6 | 6.666 | 7 | $\sqrt{225}$ | 25 | 27 | 39 | 56 | 1000 |
|-------|-------------|---|-------|---|--------------|----|----|----|----|------|

From the list of numbers, write down

(a) an even number

..... [1]

(b) a factor of 28

..... [1]

(c) a square number

..... [1]

(d) a prime number

..... [1]

(e) an irrational number.

..... [1]

- 2 (a) Bella is  $b$  years old.  
Alan is 5 years older than Bella.

Write an expression, in terms of  $b$ , for how old Alan is.

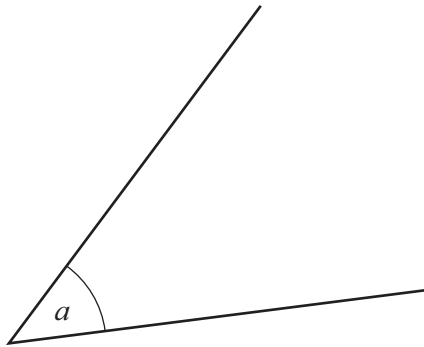
..... [1]

- (b) Write an expression for the total cost, in cents, of  $x$  bags of sweets costing 65 cents each.

..... cents [1]



3



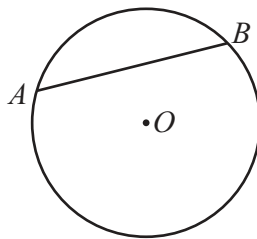
(a) Measure angle  $a$ .

..... [1]

(b) Write down the mathematical name for this type of angle.

..... [1]

4 (a) Points  $A$  and  $B$  lie on a circle, centre  $O$ , as shown in the diagram.



Write down the mathematical name for line  $AB$ .

..... [1]

(b) A quadrilateral has

- four equal sides
- no right angles
- opposite angles that are equal.

Write down the mathematical name for this quadrilateral.

..... [1]





- 5 (a) Write  $\frac{1}{2}$  as a decimal.

..... [1]

- (b) Write  $\frac{9}{10}$  as a percentage.

.....% [1]

- (c) Write 0.15 as a fraction in its simplest form.

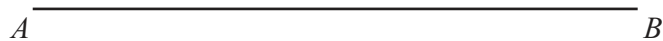
..... [1]

- 6 Triangle  $ABC$  has sides  $AC = 7.4$  cm and  $BC = 4.6$  cm.

**Using a ruler and compasses only**, construct triangle  $ABC$ .

Leave in your construction arcs.

The side  $AB$  has been drawn for you.



[2]



- 7 (a) Two fair 4-sided dice have faces numbered 1 to 4.  
The dice are thrown, and the numbers are multiplied to give a total.  
The table shows all the possible results.

|        |   | dice B |   |    |    |
|--------|---|--------|---|----|----|
|        |   | 1      | 2 | 3  | 4  |
| dice A | 1 | 1      | 2 | 3  | 4  |
|        | 2 | 2      | 4 | 6  | 8  |
|        | 3 | 3      | 6 | 9  | 12 |
|        | 4 | 4      | 8 | 12 | 16 |

Find the probability the total is

- (i) 12

..... [1]

- (ii) 5

..... [1]

- (iii) a number that is less than 20.

..... [1]

- (b) A biased 6-sided dice, numbered 1 to 6, is thrown.  
The probability of scoring the number 6 is 0.2 .

Work out the probability of scoring a number less than 6.

..... [1]

- 8 In a town, the lowest temperature one night is  $-12.6^{\circ}\text{C}$ .  
The highest temperature the next day is  $25.7^{\circ}\text{C}$ .

Calculate the difference between these two temperatures.

.....  $^{\circ}\text{C}$  [1]



9 When Ahmed gets out of bed he takes

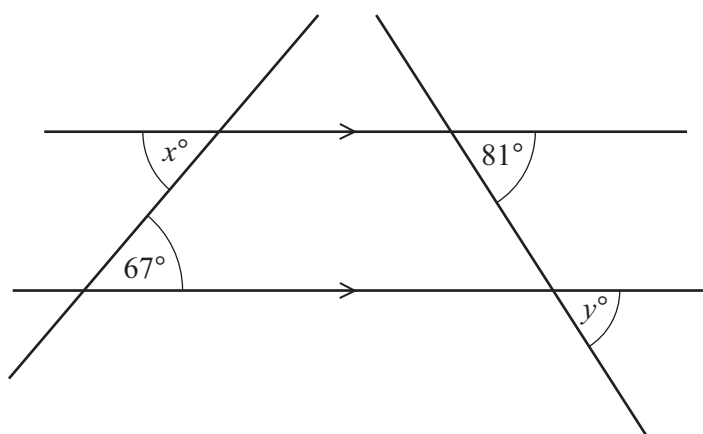
- 12 minutes to get dressed
- 26 minutes to eat breakfast
- 37 minutes to walk to the station.

Ahmed must be at the station by 09 45.

Work out the **latest** time Ahmed can get out of bed.

..... [2]

10 The diagram shows two straight lines intersecting two parallel lines.



NOT TO SCALE

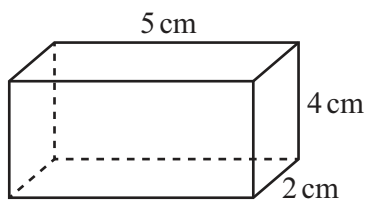
Complete each of these statements with the correct geometrical reason.

$x = 67$  because .....

$y = 81$  because .....

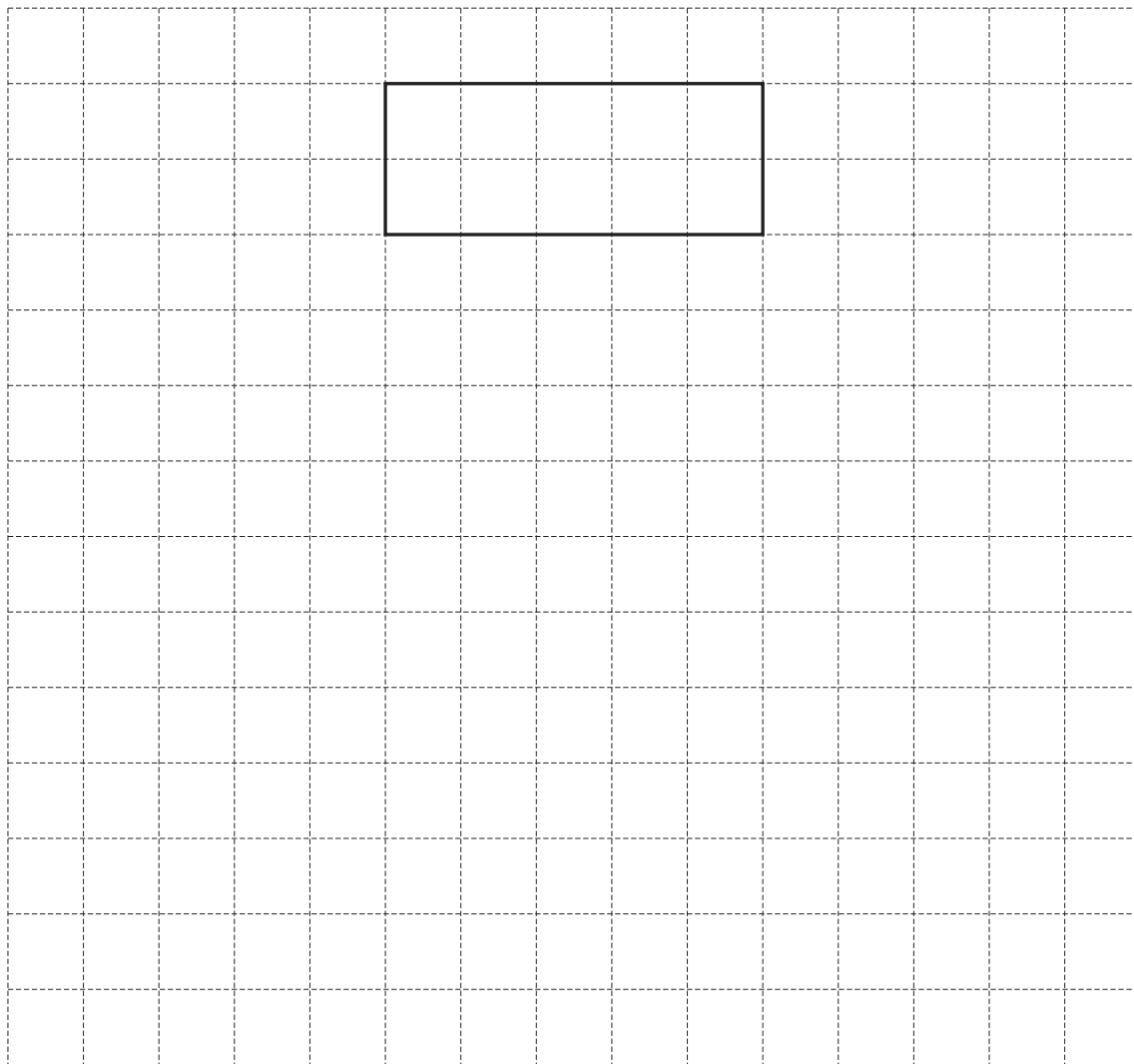
[2]





NOT TO SCALE

On the  $1\text{cm}^2$  grid, complete a net of this cuboid.  
One face has been drawn for you.



[3]



- 12 The stem-and-leaf diagram shows the lengths, in centimetres, of 32 wooden planks.

|    |   |   |   |   |   |   |   |   |   |   |   |
|----|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 3 | 4 | 4 | 5 | 6 | 6 | 8 | 9 |   |   |   |
| 24 | 0 | 0 | 1 | 1 | 1 | 1 | 3 | 6 | 8 | 8 | 9 |
| 25 | 2 | 3 | 5 | 6 | 7 | 9 | 9 | 9 |   |   |   |
| 26 | 0 | 0 | 1 | 2 | 4 |   |   |   |   |   |   |

key : 23 | 3 represents 233 cm

- (a) Find the range.

..... cm [1]

- (b) Find the mode.

..... cm [1]

- (c) Find the median.

..... cm [1]

- (d) Find the fraction of all these planks which are less than 236 cm.  
Write your answer as a fraction in its simplest form.

..... [2]





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

$$\frac{9.57 \times 3.84}{6.72 + 1.13}.$$

..... [2]

- 14 A bag contains 45 balls.  
The balls are red or green.  
The balls are in the ratio red balls : green balls = 2 : 3.

Carlos puts 4 more red balls and  $x$  more green balls into the bag.  
The balls are now in the ratio red balls : green balls = 1 : 2.

Find the value of  $x$ .

$x =$  ..... [4]

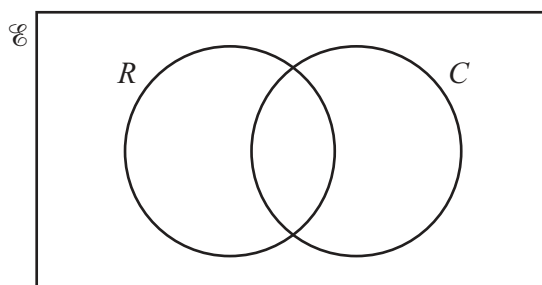


15 (a) 60 people complete a survey about hobbies.

41 people like reading books ( $R$ ).

31 people like cookery ( $C$ ).

11 do not like reading books and do not like cookery.



(i) Complete the Venn diagram.

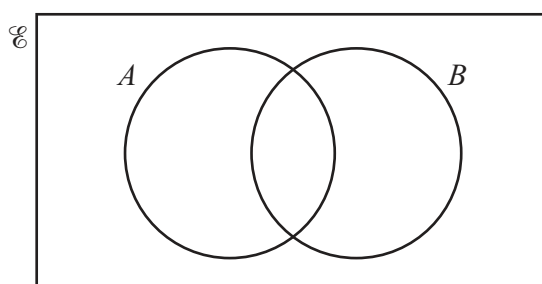
[2]

(ii) One of these 60 people is picked at random.

Find the probability that they like cookery but they do not like reading books.

..... [1]

(b)



Shade  $A \cap B$ .

[1]





- 16 Buses at a station go to Alve or to Riba.  
Buses leave every 16 minutes for Alve.  
Buses leave every 28 minutes for Riba.  
At 08 25 a bus for Alve and a bus for Riba leave the station together.

Find the next time a bus for Alve and a bus for Riba leave the station together.

..... [3]

- 17 Work out.

$$2\frac{1}{6} - 1\frac{3}{5}$$

Write your answer as a fraction in its simplest form.

..... [3]

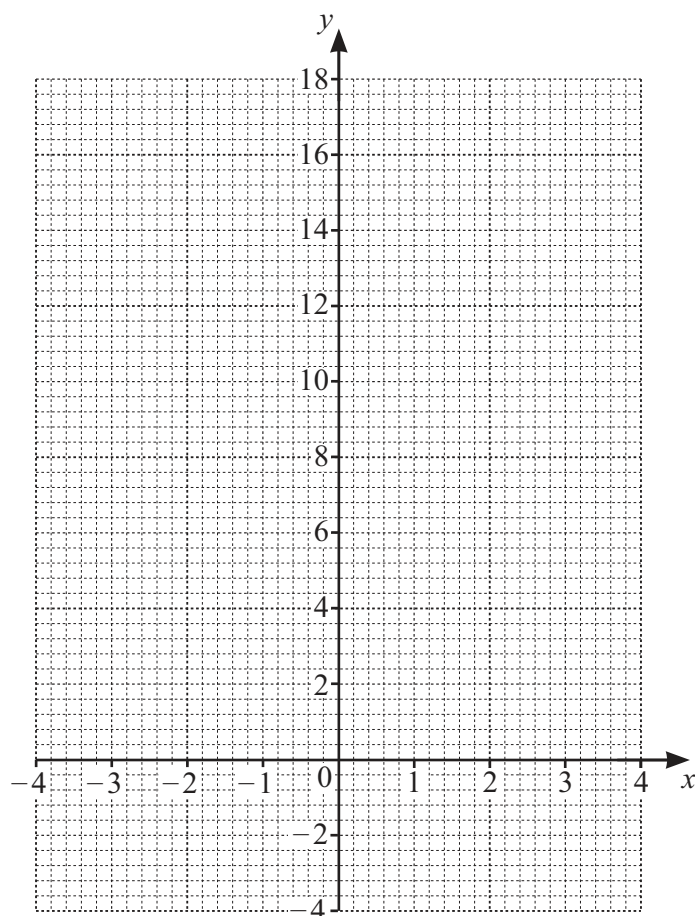


18 (a) Complete the table of values for  $y = x^2 + x - 3$ .

|     |    |    |    |    |    |    |   |   |   |
|-----|----|----|----|----|----|----|---|---|---|
| $x$ | -4 | -3 | -2 | -1 | 0  | 1  | 2 | 3 | 4 |
| $y$ | 9  |    | -1 | -3 | -3 | -1 |   | 9 |   |

[2]

(b) On the grid, draw the graph of  $y = x^2 + x - 3$  for  $-4 \leq x \leq 4$ .



[4]

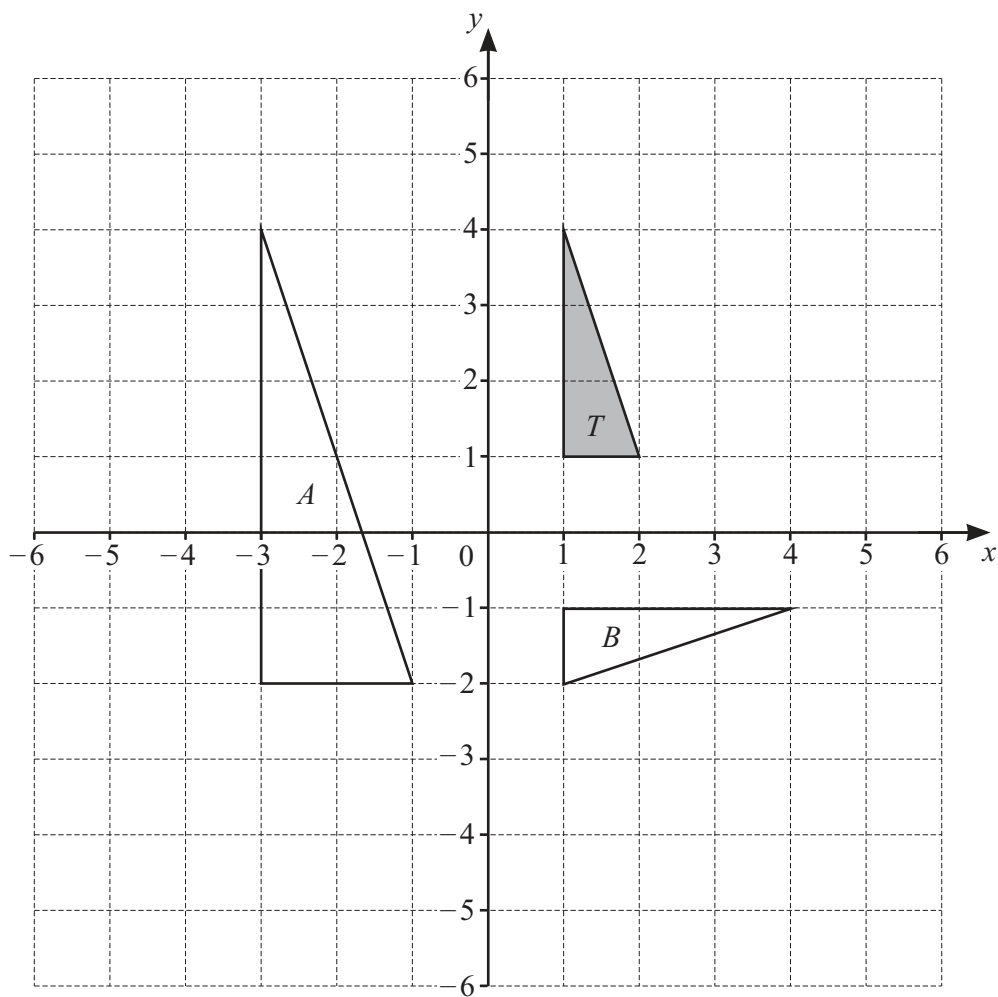
(c) Write down the equation of the line of symmetry of the graph.

..... [1]

(d) Use your graph to solve the equation  $x^2 + x - 3 = 0$ .

$x = \dots\dots\dots$  or  $x = \dots\dots\dots$  [2]





(a) On the grid, draw the image of triangle  $T$  after a translation by the vector  $\begin{pmatrix} 3 \\ -6 \end{pmatrix}$ . [2]

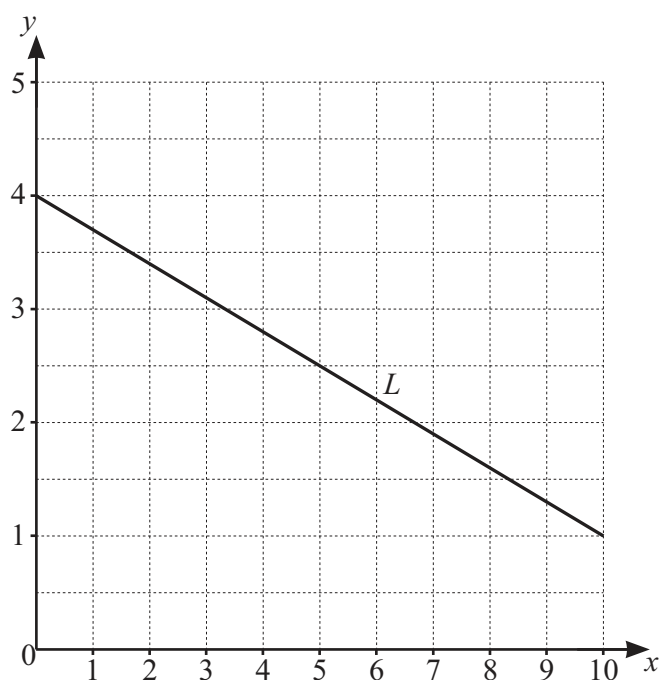
(b) On the grid, draw the image of triangle  $T$  after a reflection in the line  $y = -1$ . [2]

(c) Describe fully the **single** transformation that maps triangle  $T$  onto triangle  $A$ .  
 ..... [3]  
 .....

(d) Describe fully the **single** transformation that maps triangle  $T$  onto triangle  $B$ .  
 ..... [3]  
 .....



- 20 The diagram shows line  $L$  on a grid.



Find the equation of line  $L$  in the form  $y = mx + c$ .

$$y = \dots\dots\dots [3]$$

- 21 (a) Make  $T$  the subject of the formula.

$$P = Ty$$

$$T = \dots\dots\dots [1]$$

- (b) Expand the brackets and simplify.

$$(x + 8)(x - 5)$$

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



- 22 The time,  $t$  seconds, for the winner of a race is 12.7 seconds, correct to 3 significant figures.

Complete this statement about the value of  $t$ .

.....  $\leq t <$  ..... [2]

- 23 Solve the simultaneous equations.

$$\begin{aligned} 3x + 4y &= 1 \\ 2x - 3y &= 12 \end{aligned}$$

$x =$  .....

$y =$  .....

[4]

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