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MATHEMATICS **0580/13**

Paper 1 Non-calculator (Core) **October/November 2025**

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 or correction fluid.
- 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.

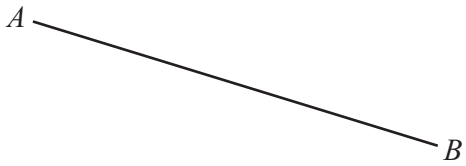
[Turn over

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) Measure the length of line *AB* in centimetres.

..... cm [1]

(b) Draw a line that is parallel to line *AB*. [1]

2 **(a)** Write the number 83 042 in words.

..... [1]

(b) Write down the value of the 7 in the number 346 709.

..... [1]

(c) Write 8453 correct to

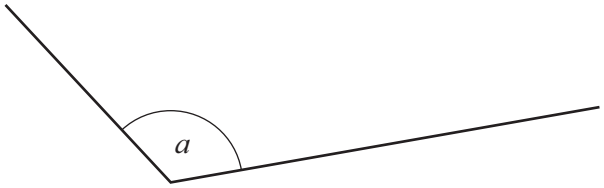
(i) the nearest hundred

..... [1]

(ii) the nearest ten.

..... [1]

3



(a) Measure angle *a*.

..... [1]

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

..... [1]

4 Ben records the favourite sport of each of 20 students.

Football Cricket Hockey Rugby Football Tennis Rugby Football Football Rugby

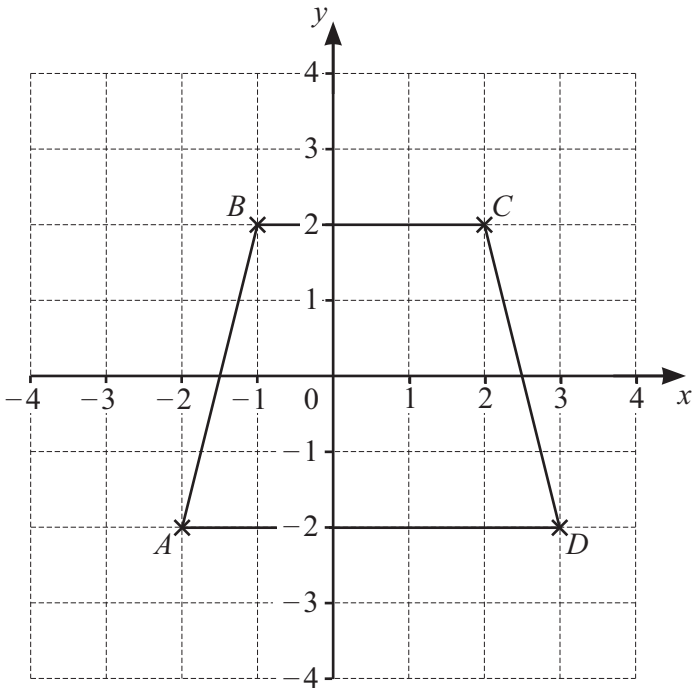
Tennis Football Rugby Football Cricket Football Rugby Football Cricket Cricket

Complete the frequency table.
You may use the tally column to help you.

Sport	Tally	Frequency
Cricket		
Football		
Hockey		
Rugby		
Tennis		

[2]

5 The diagram shows quadrilateral $ABCD$ on a 1 cm^2 grid.



(a) Write down the coordinates of point B.

(..... , ...) [1]

(b) Write down the mathematical name of quadrilateral $ABCD$.

..... [1]

(c) Find the area of quadrilateral $ABCD$.

..... cm^2 [1]

(d) On the grid, plot the point E at (–3, 2). [1]

6 Anna thinks of a number, she multiplies it by 2 and then finds the square root.
The answer is 12.

What number did Anna think of?

..... [2]

7 A journey starts at 10 55 and ends at 16 10.

Find how long the journey takes.
Give your answer in hours and minutes.

..... h ..... min [1]

8 These are the masses, in kg, of each of 11 bags.

23	16	8	10	27	19	4	17	13	4	14

(a) Complete the stem-and-leaf diagram to show this information.

0	
1	
2	

Key: 2 | 7 represents 27 kg [2]

(b) Find the median.

..... kg [1]

9 Find the value of

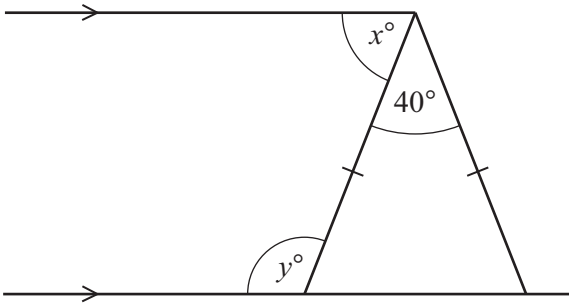
(a) 2^5

..... [1]

(b) 6^0.

..... [1]

10



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The diagram shows an isosceles triangle between a pair of parallel lines.

(a) Find the value of x.

$x =$ ..... [2]

(b) Find the value of y.
Give a geometrical reason for your answer.

$y =$ ..... because .....

..... [2]

11 **(a)** Sam buys 3 apples at 40 cents each.
He also buys 5 peaches.
The total cost is $3.45 .

Find the cost of 1 peach.

..... cents [3]

(b) Pears cost 55 cents each.
Bananas cost 36 cents each.

Write an expression, in cents, for the cost of x pears and y bananas.

..... [2]

12

(a) Simplify.

$3y - 4y + 2y$

..... [1]

(b) Solve.

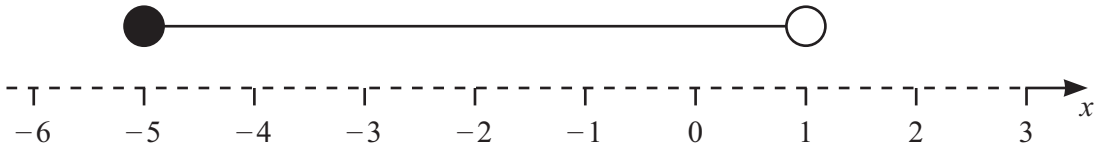
(i) $x + 5 = 19$

$x =$ ..... [1]

(ii) $6x - 5 = 7$

$x =$ ..... [2]

13



Write down the inequality represented on the number line.

..... [2]

14 Victoria invests $2000 at a rate of 5% per year simple interest.

Calculate the value of her investment after 4 years.

$ ..... [3]

15 Complete each statement.

(a) $0.0000047\,m^2$ = ... cm^2.

[1]

(b) $8500\,cm^3$ = ... litres.

[1]

16 Kai, Jo and Liz share some money in the ratio Kai : Jo : Liz = 4 : 7 : 13.
Jo receives $1400.

Find the total amount of money they share.

$ ..... [3]

17 **(a)** $k^x \times k^5 = k^{20}$

Find the value of x.

$x =$ ..... [1]

(b) Expand and simplify.

$$(x+5)(x-4)$$

..... [2]

(c) Factorise.

$$21r^3 - 7r$$

..... [2]

18 The diameter of a circle is 16 cm.

Find the area of the circle.
Leave your answer in terms of π.

..... cm^2 [2]

19 Find the number of sides of a regular polygon with interior angle 160°.

..... [2]

20 The height, h cm, of a door is 180 cm, correct to the nearest centimetre.

Complete this statement about the value of h.

..... $\leqslant h <$ ..... [2]

21 These are the first four terms of a sequence.

$$-6 \qquad 1 \qquad 8 \qquad 15$$

(a) Write down the next term.

..... [1]

(b) Write down the term-to-term rule.

..... [1]

(c) **(i)** Find the nth term.

..... [2]

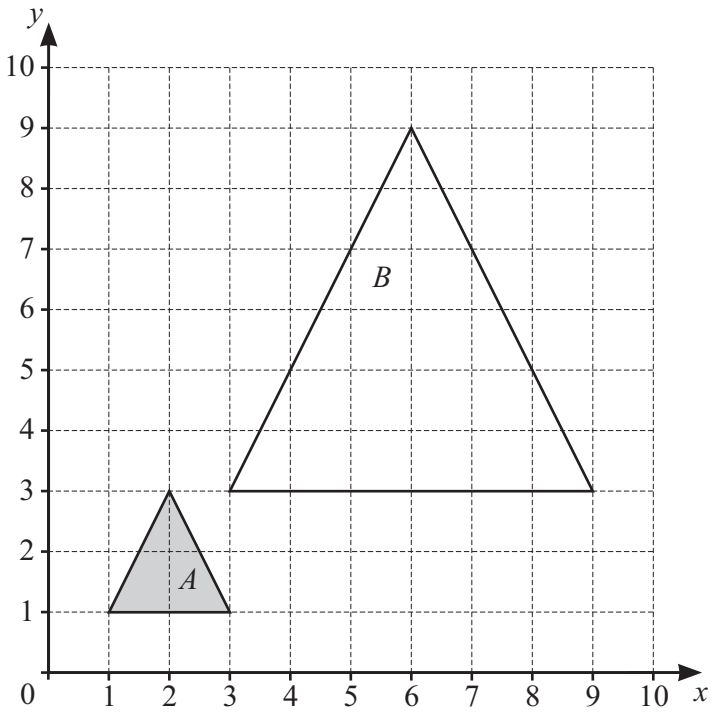
(ii) Is 688 a term in this sequence?

Explain how you decide.

..... because .....

..... [2]

22 The diagram shows triangles *A* and *B*.

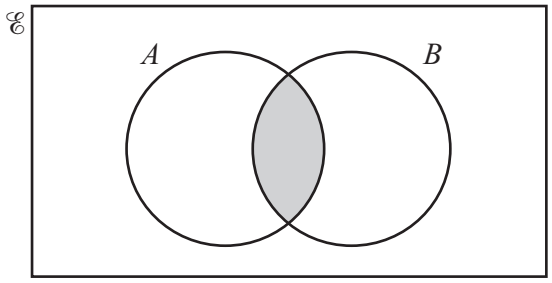


Describe fully the **single** transformation that maps triangle *A* onto triangle *B*.

.....

..... [3]

23 (a)



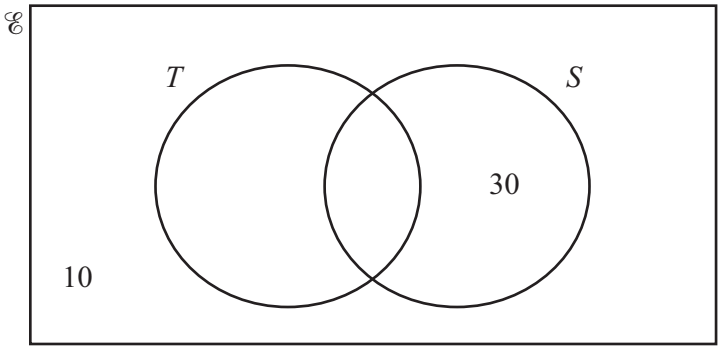
Use set notation to describe the shaded region.

..... [1]

(b)

$\mathscr{E}$ = {people in a club}
T = {people who play tennis}
S = {people who go swimming}

There are 60 people in the club.
36 people go swimming.



(i) Complete the Venn diagram. [2]

(ii) Find $n(T')$.

..... [1]

24 **(a)** The scale on a map is 1 cm represents 12 km.

Write this in the ratio 1 : n .

1 : ..... [1]

(b) The bearing of B from A is 070°.

Find the bearing of A from B.

..... [2]

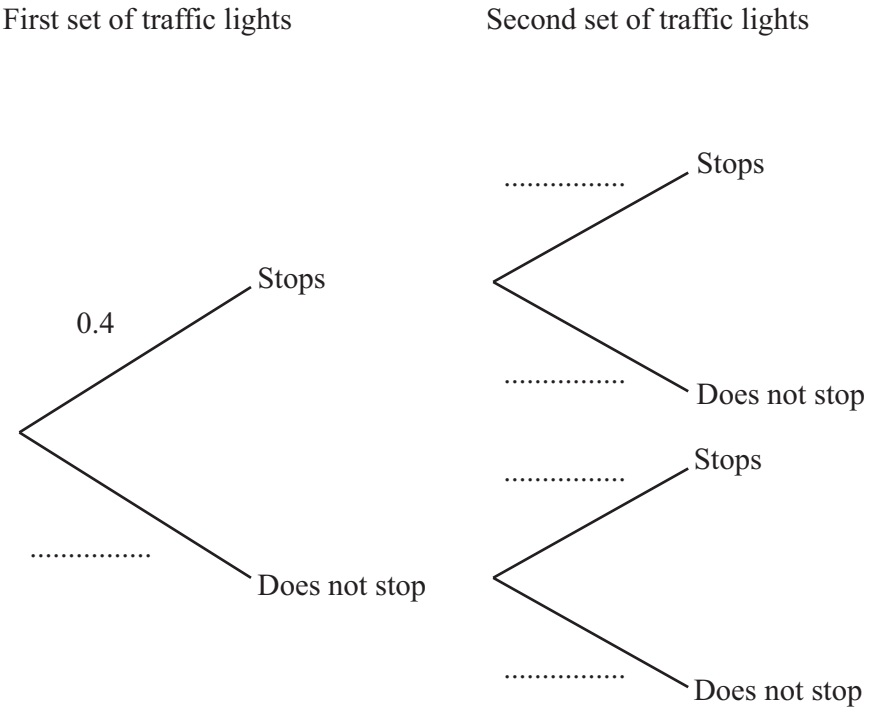
25 Work out.

$$\frac{3}{4} \times 1\frac{2}{3}$$

Give your answer as a mixed number in its simplest form.

..... [3]

26 There are 2 sets of traffic lights on Li's journey to work.
The probability he stops at the first set of traffic lights is 0.4 .
The probability he stops at the second set of traffic lights is 0.7 .



(a) Complete the tree diagram. [2]

(b) Work out the probability that Li does not stop at both sets of traffic lights.

..... [2]

Question 27 is printed on the next page.

27 Sam writes 851 000 in standard form as 85.1×10^4.

Explain why 85.1×10^4 is not a number in standard form.

.....

..... [1]