Cambridge IGCSE™

CANDIDATE NAME

CENTRE NUMBER

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CAMBRIDGE INTERNATIONAL MATHEMATICS   **0607/01**

Paper 1 Non-calculator (Core)   **For examination from 2025**

SPECIMEN PAPER B   **1 hour 15 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. You will be given marks for correct methods even if your answer is incorrect.

INFORMATION
- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

[Turn over

v1

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   Rin asks 100 people how many pets they each have.
     The results are shown in the table.

Number of pets	0	1	2	3	4	5
Number of people	14	46	18	10	7	5

(a) Find how many more people have one pet than have two pets.
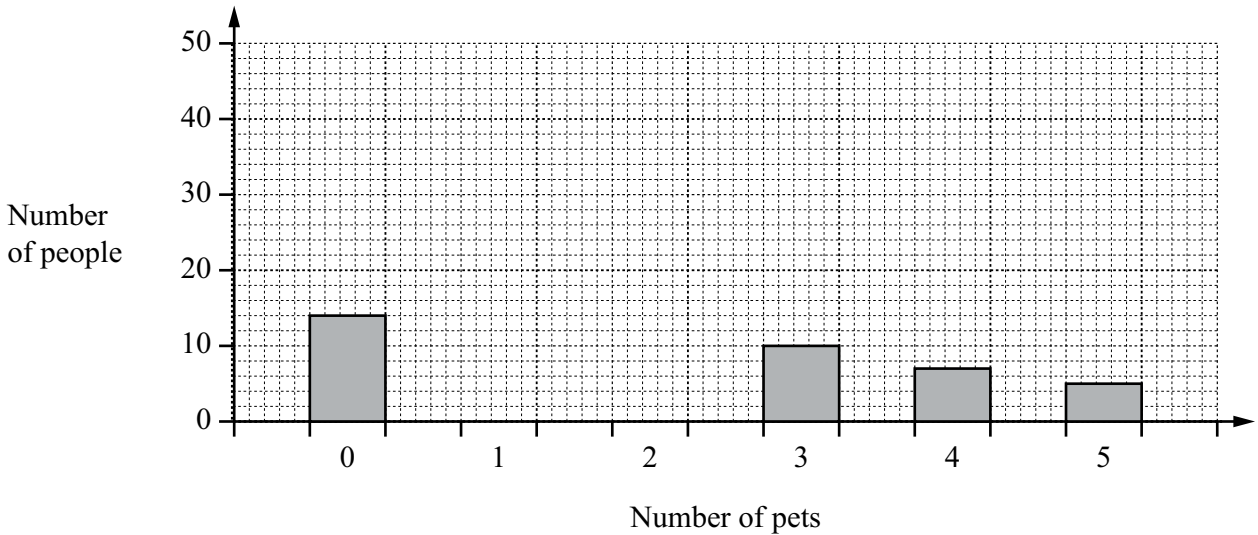
.... [1]

(b) One of the people is chosen at random.

     Work out the probability that this person has one pet.
     Give your answer as a fraction in its simplest form.

.... [2]

(c) Complete the bar chart.

[2]

2 These are the first four terms of a sequence.

$$24 \qquad 31 \qquad 38 \qquad 45$$

(a) Write down the next two terms in this sequence.

.... , ... [2]

(b) Find an expression for the nth term of this sequence.

.... [2]

3 This is a list of numbers.

$$4 \qquad 5 \qquad 6 \qquad 7 \qquad 8 \qquad 9 \qquad 10$$

From this list of numbers, write down

(a) a square number

.... [1]

(b) a triangle number

.... [1]

(c) a prime number

.... [1]

(d) a multiple of 5.

.... [1]

4 Complete the mapping diagram for the function $f(x) = 3x - 4$.

x   f(*x*)

0 → ....

.... → −1

4 → ....
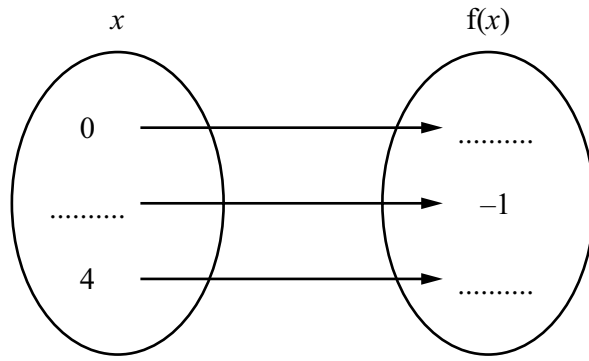
[2]

5 Wendi collects data about apples.

continuous	correlation	discrete	grouped	random

Write down a word from the box for the type of data described in each part.

(a) the number of apples on a tree

.... [1]

(b) the mass of an apple

.... [1]

6 Write these numbers in order, starting with the smallest.

$\frac{1}{4}$ 0.2   30%   0.22

.... , ... , ... , ... [2]
smallest

7 This is a train timetable.

	Train 1	Train 2	Train 3	Train 4	Train 5	Train 6	Train 7
Bunley	08 35	09 00	09 05	09 35	10 05	10 35	11 00
Alton	08 51			09 51		10 51	
Sidcot	09 19	09 44	09 30	10 19		11 19	11 44
Bilham	09 59			10 59		11 59	
Coton	10 22		10 56		11 30	12 22	12 36
Parkway	10 35		11 11			12 35	12 49
Weston		11 25		12 14			13 30

(a) A train goes from Bunley to Coton without stopping.
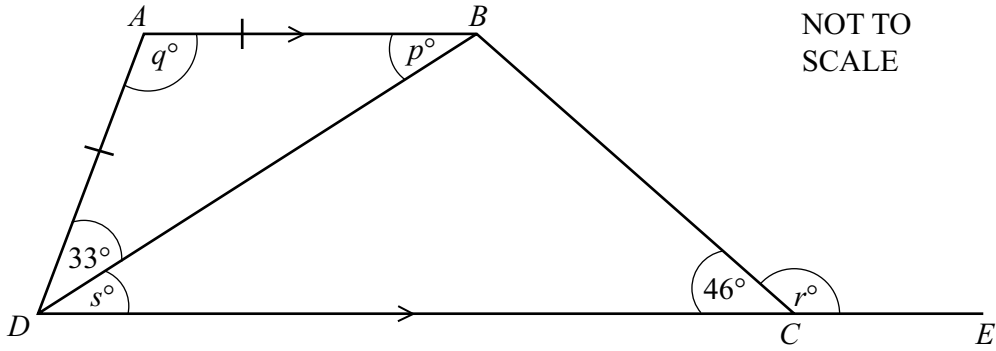
Write down the time this train leaves Bunley.

.... [1]

(b) Find which train takes the longest time to travel from Bunley to Weston.

.... [2]

8 Write 526.316 correct to 2 significant figures.

.... [1]

9

ABCD is a trapezium with angle *ADB* = 33° and angle *BCD* = 46°.
AB is parallel to *DC* and *AB* = *AD*.
DCE is a straight line.

(a) Write down the mathematical name for triangle *ABD*.

.... [1]

(b) Find the values of *p*, *q*, *r* and *s*.

p = ...

q = ...

r = ...

s = ...

[4]

10 Find the lowest common multiple (LCM) of 10 and 12.

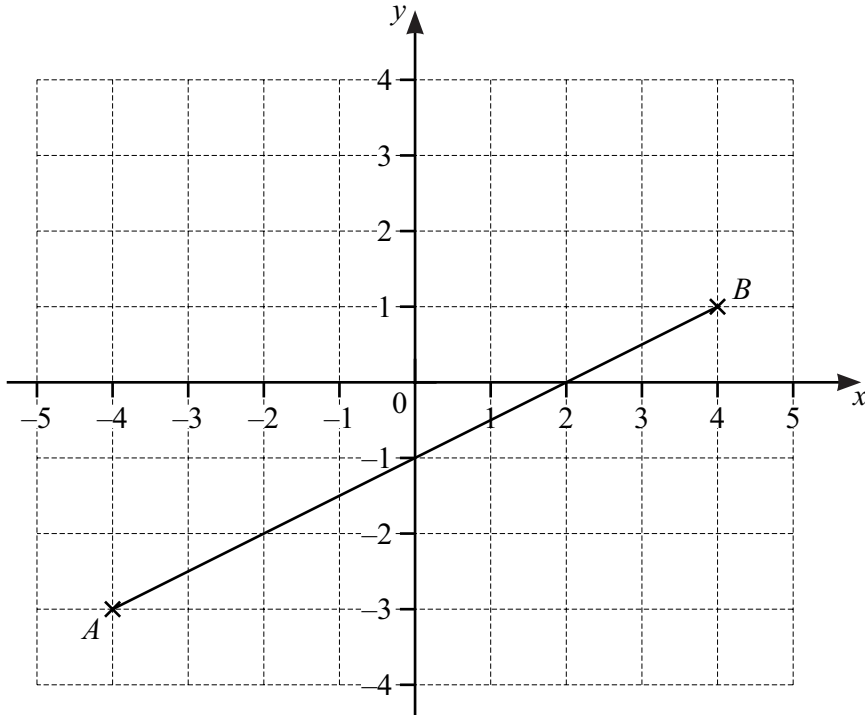.. [2]

11 Shirts cost $28.40 each.
Scarves cost $5.25 each.
Anna buys 6 shirts and 4 scarves.

By writing the cost of each item correct to 1 significant figure, work out an estimate for the amount Anna pays.

$ .... [2]

12 Find the fraction that lies exactly halfway between $\frac{2}{5}$ and $\frac{4}{7}$.

.... [2]

13

(a) Write down the coordinates of point *A* and the coordinates of point *B*.

A (.................... , ...)

B (.................... , ...)

[2]

(b) Find the coordinates of the midpoint of *AB*.

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

(c) Find the gradient of *AB*.

.... [2]

(d) Write down the equation of the line *AB*.
Give your answer in the form $y = mx + c$.

y = ... [1]

14 Solve.

$$3x + 5 = x - 3$$

$x =$ .... [2]

15 Expand the brackets and simplify.

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

.... [2]

16 Factorise.

$$x^2y^3 - 3xy$$

.... [2]

17 (a) $a^4 \times a^p = a^{12}$

Find the value of p.

$p =$ .... [1]

(b) $\dfrac{b^q}{b^4} = b^{12}$

Find the value of q.

$q =$ .... [1]

11

18 Find the value of 8500×0.02 .
Write your answer in standard form.

.... [2]

19 In a class:
- 11 students like classical music (*C*)
- 15 students like pop music (*P*)
- 8 students like classical music and pop music
- 6 students do not like classical music or pop music.
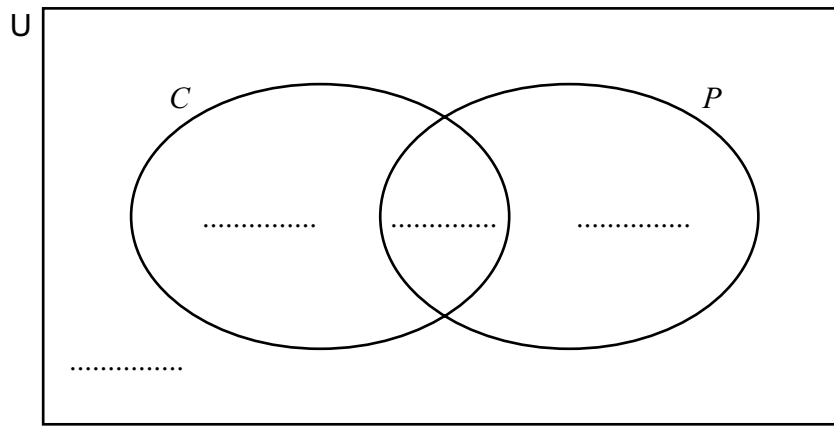
(a) Complete the Venn diagram to show this information. [2]

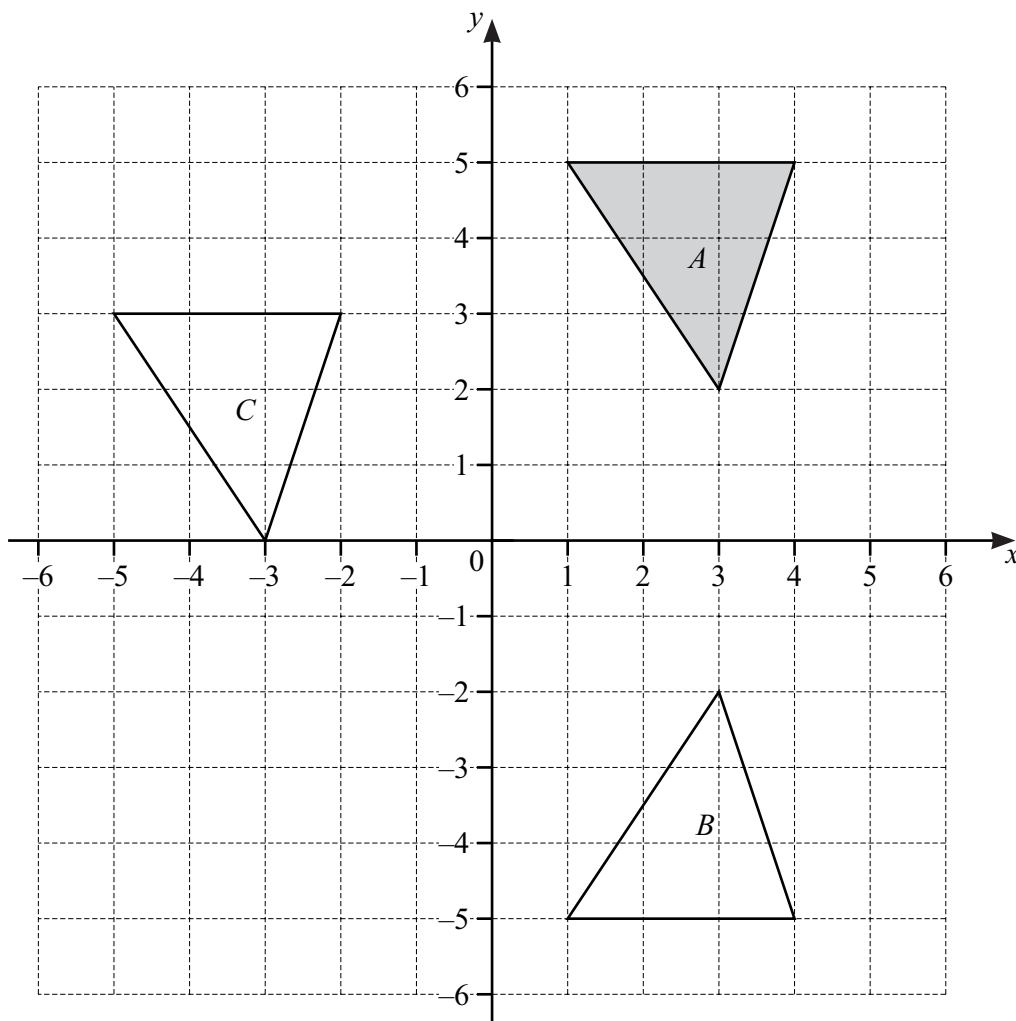**(b)** Find the total number of students in the class.

.... [1]

(c) One student is chosen at random.

Find the probability that this student likes both classical music and pop music.

.... [1]

Question 20 is printed on the next page.

20

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

....

.... [2]

(b) Describe fully the **single** transformation that maps triangle *A* onto triangle *C*.

....

.... [2]

(c) On the grid, draw the image of triangle *A* after a rotation of 180° about the origin.
Label this image *D*. [2]