

**Cambridge IGCSE™**CANDIDATE
NAMECENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--

**MATHEMATICS****0580/12**

Paper 1 Non-calculator (Core)

May/June 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. 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 Write the number sixteen thousand and sixty-two in figures.

..... [1]

- 2 Write three-quarters as

(a) a decimal

..... [1]

(b) a percentage.

..... % [1]

- 3 Write down the value of

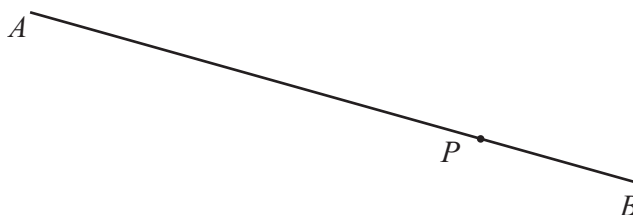
(a) $\sqrt{36}$

..... [1]

(b) 10^3 .

..... [1]

- 4 The diagram shows a line AB and a point P .



- (a) Measure the length of line AB in millimetres.

..... mm [1]

- (b) Draw a line through point P that is perpendicular to line AB .

[1]

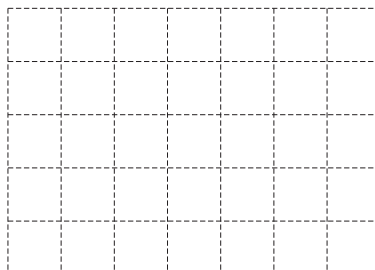


5 Complete this statement.

10 weeks is days.

[1]

6



Shade $\frac{2}{5}$ of the rectangle.

[1]

7 (a) Find the value of the reciprocal of $\frac{1}{3}$.

..... [1]

(b) Write 2^{-3} as a fraction.

..... [1]

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

(a) $-12 + 4 \div 2 - 3 = -16$

[1]

(b) $-3 - 4 + 5 - 7 = -5$

[1]

9 Write these fractions in order, starting with the smallest.

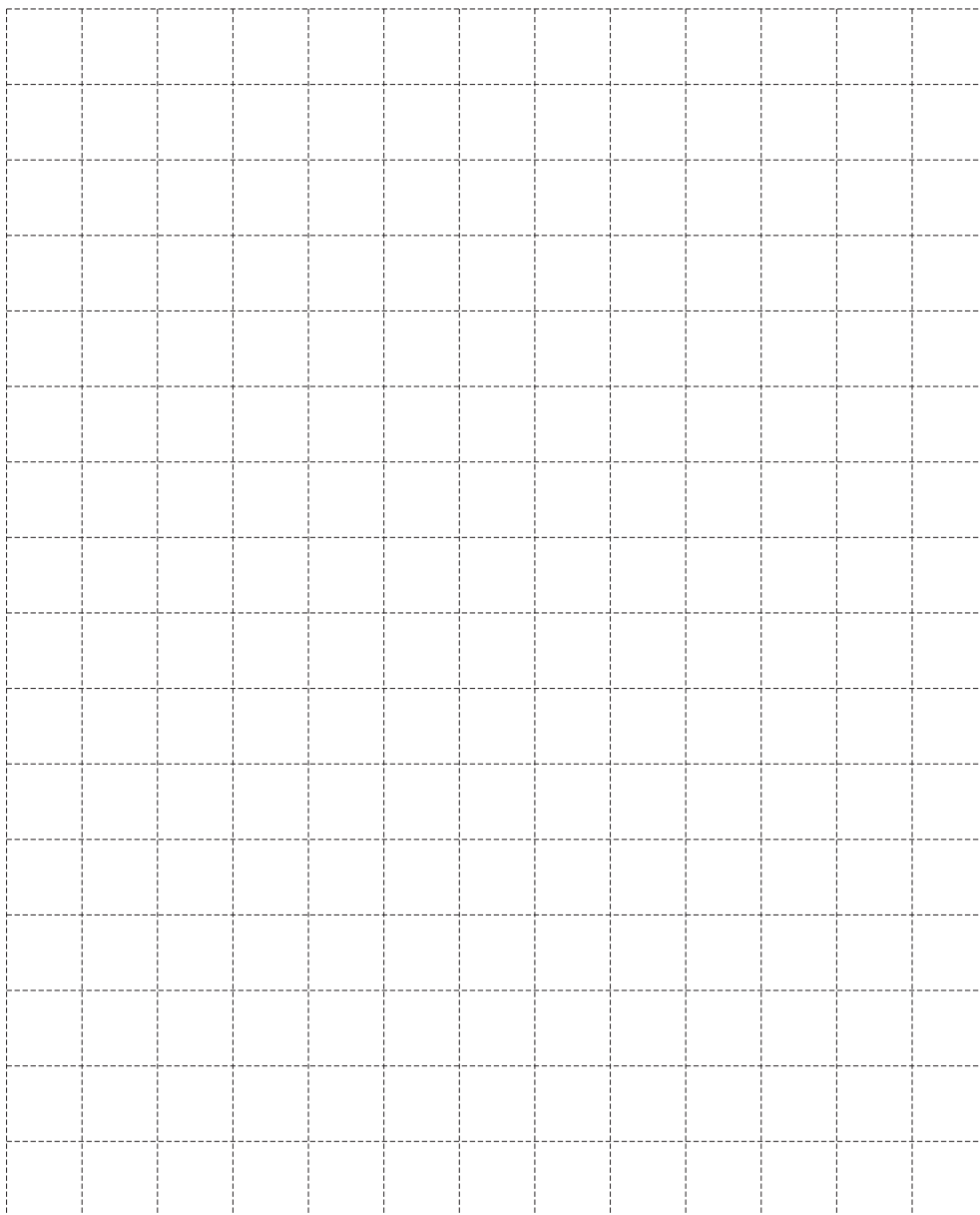
$\frac{5}{8}$ $\frac{11}{12}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{13}{24}$

..... < < < < [2]
smallest



10 A cuboid has length 5 cm, width 2 cm and height 3 cm.

(a) Draw a net of the cuboid on the 1 cm^2 grid.



[3]

(b) Work out the volume of the cuboid.
Give the units of your answer.

..... [2]





0	2	2	3	4	7
---	---	---	---	---	---

For these six numbers

(a) write down the mode

..... [1]

(b) work out the range

..... [1]

(c) work out the median

..... [1]

(d) work out the mean.

..... [2]

- 12 Tim has a method for multiplying a number by 99.
He shows his method for 53×99 .

$$\begin{aligned} 53 \times 99 \\ = 53 \times 100 - 53 \\ = 5300 - 53 \\ = 5247 \end{aligned}$$

Work out 85×99 using Tim's method.

..... [2]



13 (a) A quadrilateral has the geometrical properties

- 4 equal length sides
- 2 lines of symmetry
- rotational symmetry of order 2.

Write down the mathematical name of this quadrilateral.

..... [1]

(b) Write down two geometrical properties of a rectangle.

1.

2.

[2]

(c)



The parallel sides of a trapezium have lengths 6 cm and 4 cm.

The area of the trapezium is 15 cm^2 .

On the 1 cm^2 grid, draw a trapezium with these lengths and area.

[3]

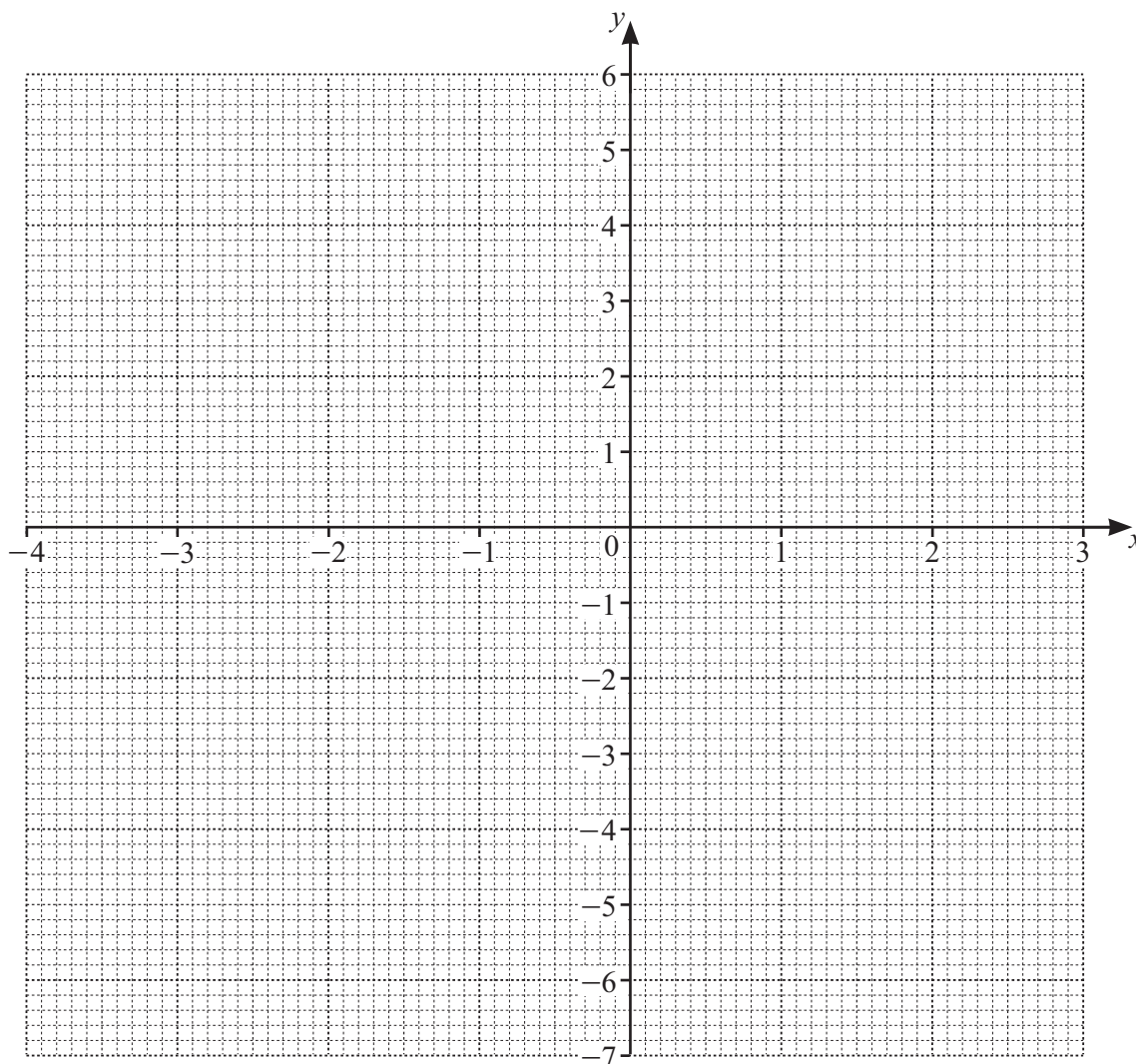


14 (a) Complete the table of values for $y = (x+3)(x-2)$.

x	-4	-3	-2	-1	0	1	2	3
y	6		-4			-4		

[3]

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



[4]



* 0000800000009 *

DFD

9

(c) Write down the coordinates of the lowest point of the graph.

(..... ,) [1]

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

..... [1]

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

$x =$ or $x =$ [2]

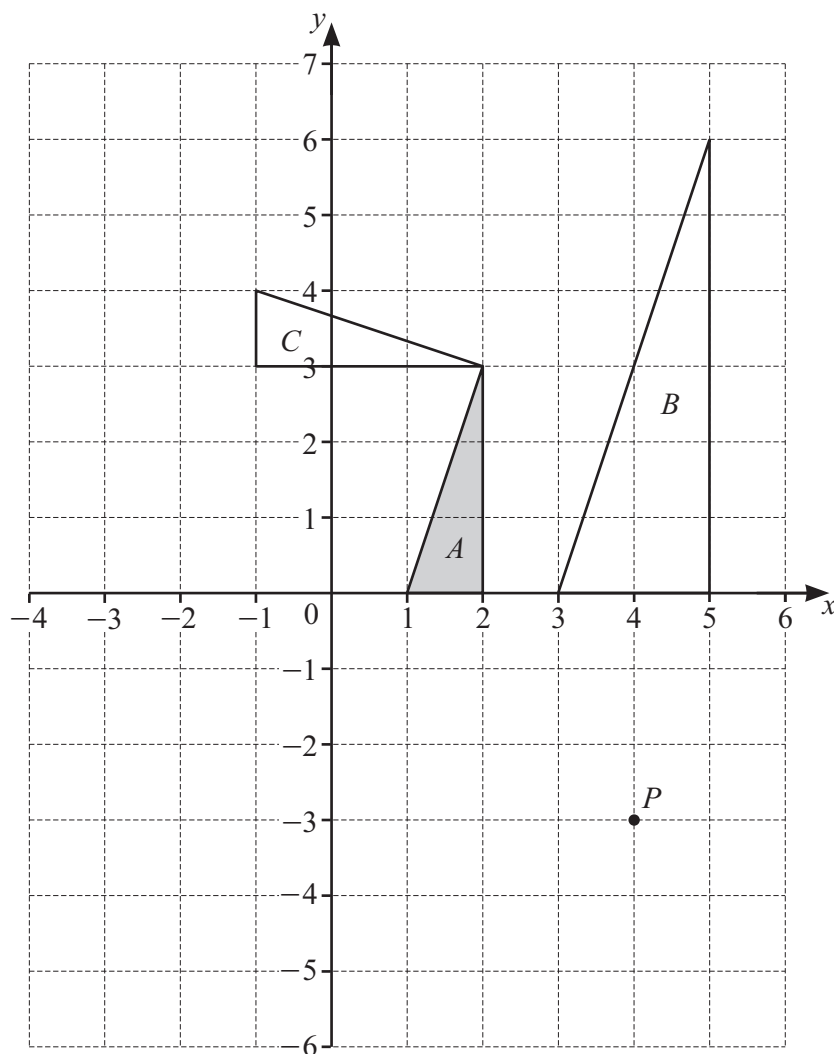
- 15 Beth thinks of a positive number, n .
She squares n then subtracts 55.
The answer is 9.

Work out the value of n .

$n =$ [2]



- 16 The diagram shows a point P and three triangles, A , B and C , on a 1 cm^2 grid.



- (a) Find the area of triangle B .

..... cm^2 [1]

- (b) (i) Write down the coordinates of point P .

(..... ,) [1]

- (ii) Work out the coordinates of point P after a translation by the vector $\begin{pmatrix} -20 \\ 12 \end{pmatrix}$.

(..... ,) [1]



(c) Draw the image of triangle A after a reflection in the line $y = -1$.

[2]

(d) Describe fully the **single** transformation that maps

(i) triangle A onto triangle B

.....

..... [3]

(ii) triangle A onto triangle C .

.....

..... [3]



- 17 By writing each number in the calculation correct to 1 significant figure, find an estimate for the value of

$$\frac{17.8 + 10.3}{5.5}.$$

..... [2]

- 18 Find the highest common factor (HCF) of 66 and 110.

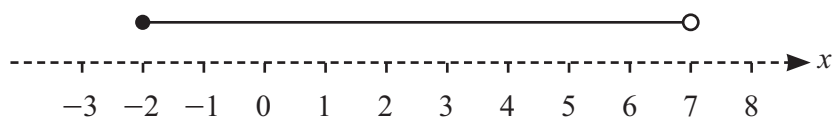
..... [2]

- 19 (a) P is a prime number.

Write down the value of P that satisfies the inequality $13 < P < 19$.

$P =$ [1]

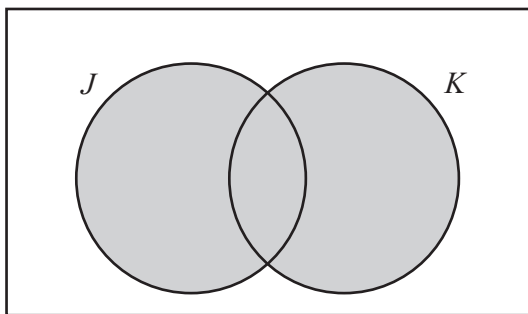
- (b) Write down the inequality represented on the number line.



..... [2]



8



Use set notation to describe the shaded region.

..... [1]

21 Work out $2\frac{7}{9} \times 1\frac{1}{5}$.

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

..... [3]

22 The mass, m kg, of a stone is 3.2 kg, correct to the nearest 100 g.

Complete this statement about the value of m .

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



23 (a) Factorise.

$$9x - 6xy$$

..... [2]

(b) Expand and simplify.

$$(2x + 3)(x - 4)$$

..... [2]

24 Solve the simultaneous equations.

$$5x + 2y = 3$$

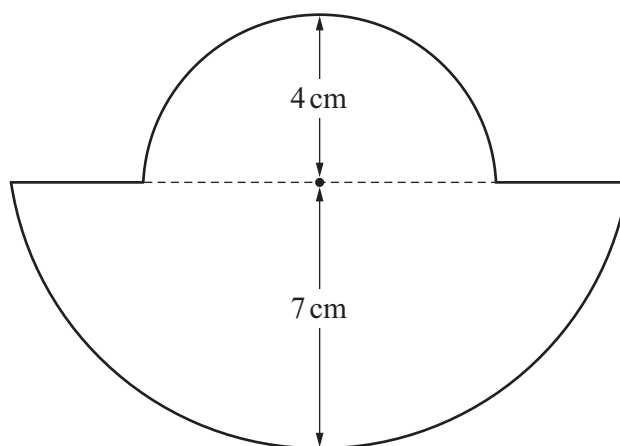
$$3x + 4y = 27$$

$x =$

$y =$ [3]



- 25 The diagram shows a shape made from two different semicircles, with the same centre.



NOT TO
SCALE

The radius of the large semicircle is 7 cm.
The radius of the small semicircle is 4 cm.

Work out the perimeter of the shape.
Give your answer in terms of π .

..... cm [3]



Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.

