Cambridge International Examinations
Cambridge International General Certificate of Secondary Education (9–1)

Cambridge IGCSE

CANDIDATE NAME			
CENTRE NUMBER		CANDIDATE NUMBER	

0601992017

MATHEMATICS **0626/01**

Paper 1 (Core) **October/November 2017**

1 hour

Candidates answer on the Question Paper.

Additional Materials: Geometrical instruments
Tracing paper (optional)

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams and graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
Electronic calculators should be used.
If working is required for any question it must be shown below that question.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total of the marks for this paper is 60.

This syllabus is regulated for use in England as a Cambridge International Level 1/Level 2 (9–1) Certificate.

This document consists of **12** printed pages.

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CAMBRIDGE
International Examinations

1 Jo buys a bottle of water for 99p and a sandwich for £1.49.
She pays with a £10 note.

How much change does she receive?

£ .... [2]

2 This table gives the coldest recorded temperature in each of 5 countries.

Country	Coldest temperature (°C)
China	−52
Cuba	1
Israel	−14
Malaysia	8
Paraguay	−8

(a) Which of these temperatures is warmest?

.... °C [1]

(b) How much colder was the temperature in Israel than the temperature in Cuba?

.... °C [1]

(c) Work out the mean of these 5 temperatures.

.... °C [2]

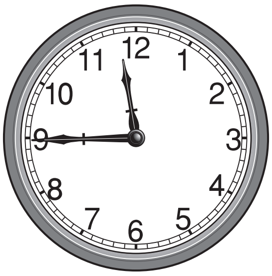
3 This timetable shows the times of some buses from Cantown bus station to Epwell.

Cantown	08 19	10 19	12 19	14 19	16 19	18 19
Darnsley	09 02	11 02	13 02	15 02	17 02	19 02
Epwell	09 53	11 53	13 53	15 53	17 53	19 53

(a) How many minutes does it take for the 16 19 bus to travel from Cantown to Darnsley?

.... minutes [1]

(b) This is the time when Maciej arrives at Cantown bus station one morning.



Maciej catches the next bus to Epwell.

How long is it before he arrives in Epwell?
Give your answer in hours and minutes.

.... hours .... minutes [3]

4 Sam carried out a survey to find out what sport people prefer.
Some of his results are shown in the table.

Sport	Tally	Frequency
Hockey	//	2
Rugby	~~////~~ ~~////~~ ////	
Football	~~////~~ ~~////~~ ~~////~~ /	
Archery		7
Snooker	~~////~~ ~~////~~	

(a) Complete the four blank spaces in the table above. [2]

(b) Which sport is the most popular?

.... [1]

(c) How many **more** people prefer rugby than prefer hockey?

.... [1]

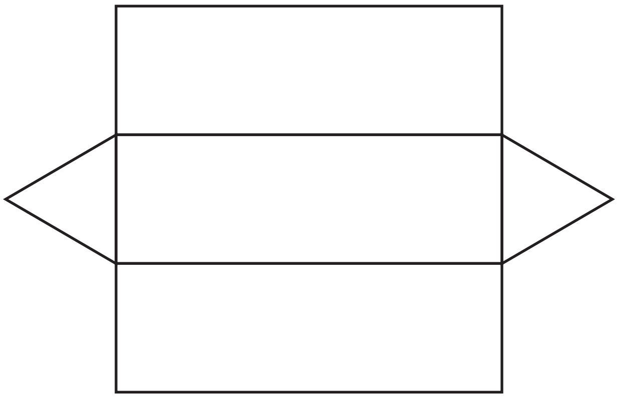
(d) Sam says that his survey shows that hockey is the country's least popular sport.

Explain why Sam may be wrong.

....

.... [1]

5 **(a)**

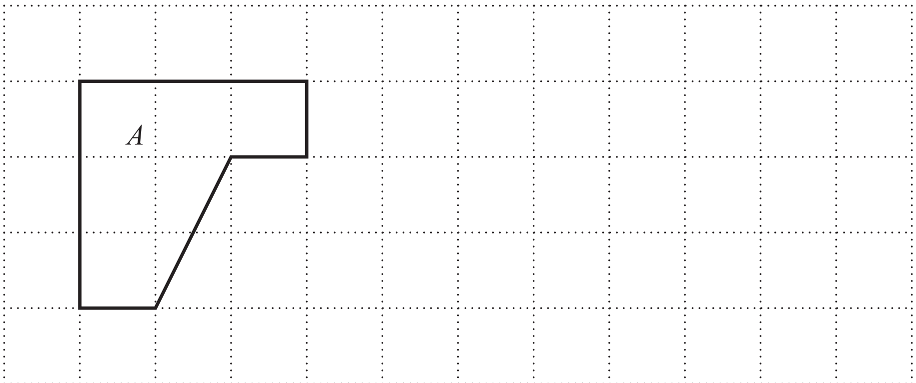


This is the net of a solid.

Write down the name of this solid.

.... [1]

(b) On the grid, draw a shape that is congruent to shape *A*.



[1]

6 **(a)** Find the square root of 6889.

.... [1]

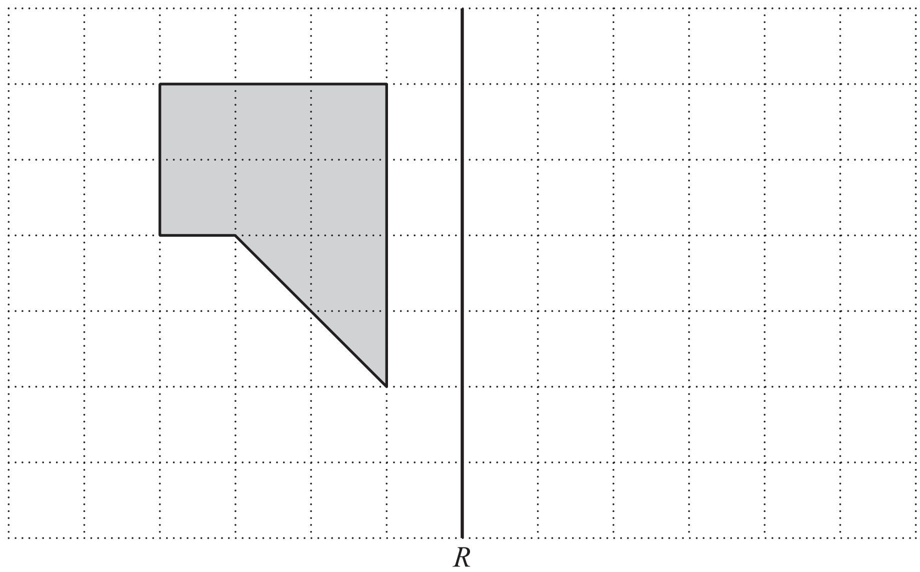
(b) Calculate.

$$\sqrt[3]{12} - 1.7^2$$

Give your answer correct to 3 decimal places.

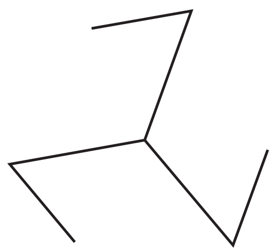
.... [2]

7 **(a)** Draw the reflection of this shape in the line *R*.



[2]

(b)



Fill in the gaps to describe the symmetry of this shape.

This shape has .... lines of symmetry.

This shape has rotational symmetry of order .... [2]

8 The table shows a sequence of number patterns.

Calculation	Answer
$20^2 - 19^2$	39
$21^2 - 20^2$	41
$22^2 - 21^2$	43
$23^2 - 22^2$	

(a) Continue the sequence to complete the table. [2]

(b) **(i)** Use the patterns in the table to complete this calculation.

97^2 − .... = ... [1]

(ii) Explain how you used the patterns to complete the calculation in **part (b)(i)**.

....

.... [1]

(c) Use the pattern to work out

(one million and one) squared minus (one million) squared.

Write your answer in words.

.... [1]

9 Marco, Carlo and Janey did the same test.

- Marco scored 27 out of 40
- Carlo scored $\frac{5}{8}$ of the marks
- Janey scored 70%

Show that Janey scored the highest mark.

[3]

10

$\mathscr{E}$ = {integers from 1 to 20}
A = {multiples of 5}
P = {prime numbers}

(a) Write down the elements of A.

A = { .... } [1]

(b) Write down n(A).

n(A) = ... [1]

(c) Find $A \cap P$.

$A \cap P$ = { .... } [1]

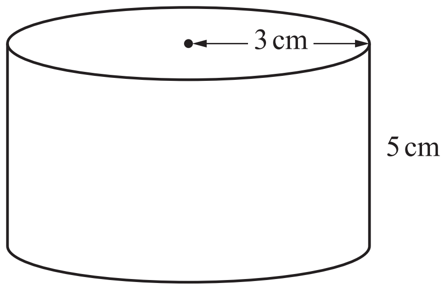
11 A glass trophy is in the shape of a cuboid.
Its base is a square of side 6.5 cm and its height is 10 cm.
The density of glass is 2.5 g/cm^3.

Show that the mass of the trophy is more than one kilogram.

[The density, D, of an object with mass m and volume V is $D = \frac{m}{V}$.]

[4]

12



NOT TO SCALE

Work out the volume of this cylinder.

.... cm^3 [2]

13 **(a)** Solve the inequality.

$$7x - 2 \leqslant 19$$

.... [2]

(b) Represent your solution on the number line.

[1]

14 Solve the equation.

$$7(8 - 2x) = 35$$

$x =$ .... [3]

15 Jess carries out a survey to find out if Year 11 students in her school want to have a summer ball.
There are 360 students in Year 11.

She selects a systematic sample of 20 of these students to survey.

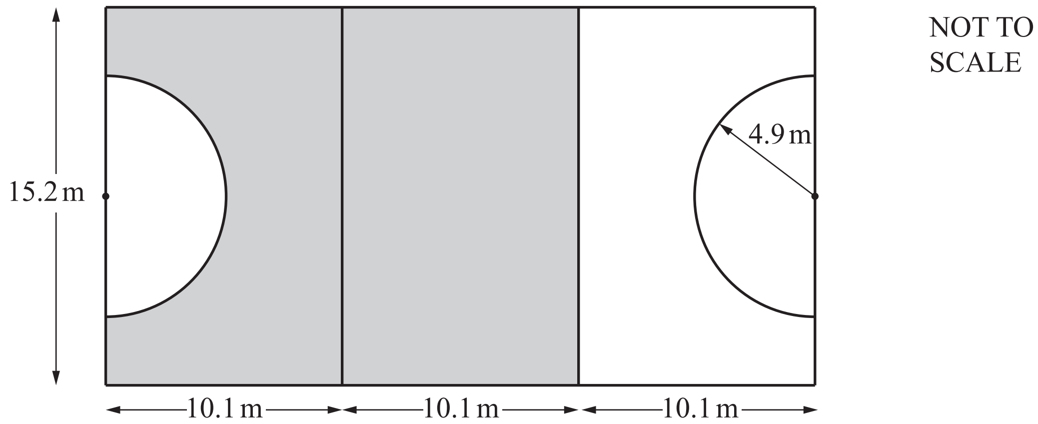
Explain clearly how she selects these 20 students.

....

....

.... [2]

16



The diagram shows a netball court.
It consists of three identical rectangles with two semi-circles.

Each rectangle is 15.2 m long and 10.1 m wide.
Each semi-circle has radius 4.9 m.

The Wing Attack player can move anywhere in the shaded area.

What percentage of the whole court can the Wing Attack player move in?

.... % [4]

17 Simplify.

$7x^2y^3 \times 2x^5y$

.... [2]

Questions 18 and 19 are printed on the next page.

18 Make c the subject of this formula.

$$S = cd + 3dh$$

.... [2]

19 A purple case contains x red cartons.
Each red carton contains y green boxes.
Each green box contains z counters.

$x > y > z > 1$

Altogether there are 455 counters in the purple case.

Find the values of x, y and z.

x = ... , y = ... , z = ... [3]