Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

MATHEMATICS **0580/13**

Paper 1 (Core) **October/November 2020**

1 hour

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.
- You should use a calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π, use either your calculator value or 3.142.

INFORMATION

- The total mark for this paper is 56.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Blank pages are indicated.

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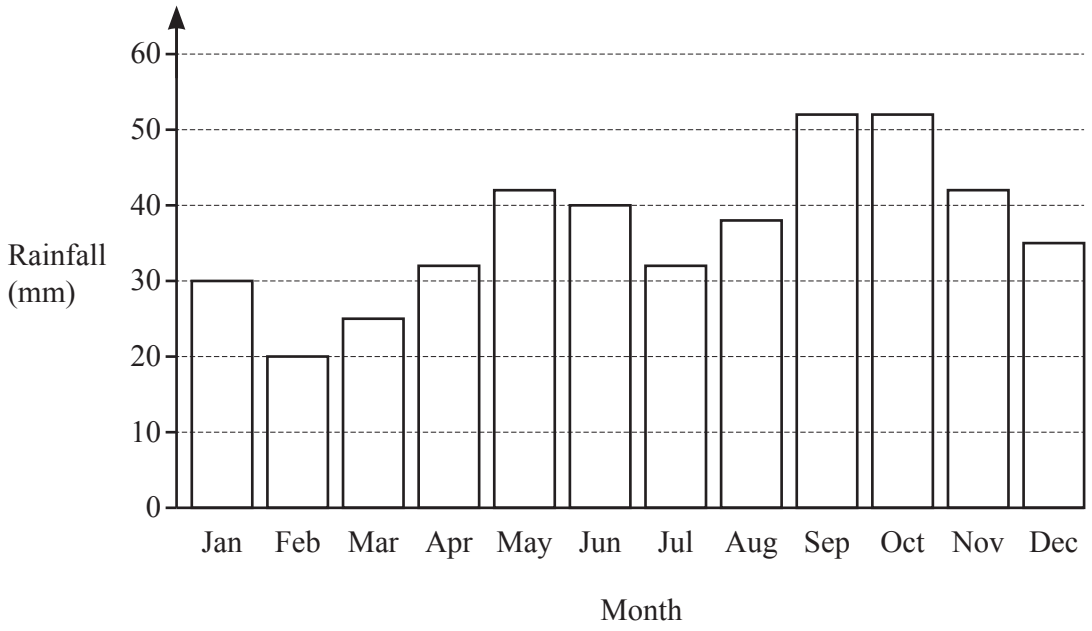
1 This bar chart shows the amount of rainfall, in mm, for each month of one year in a city.



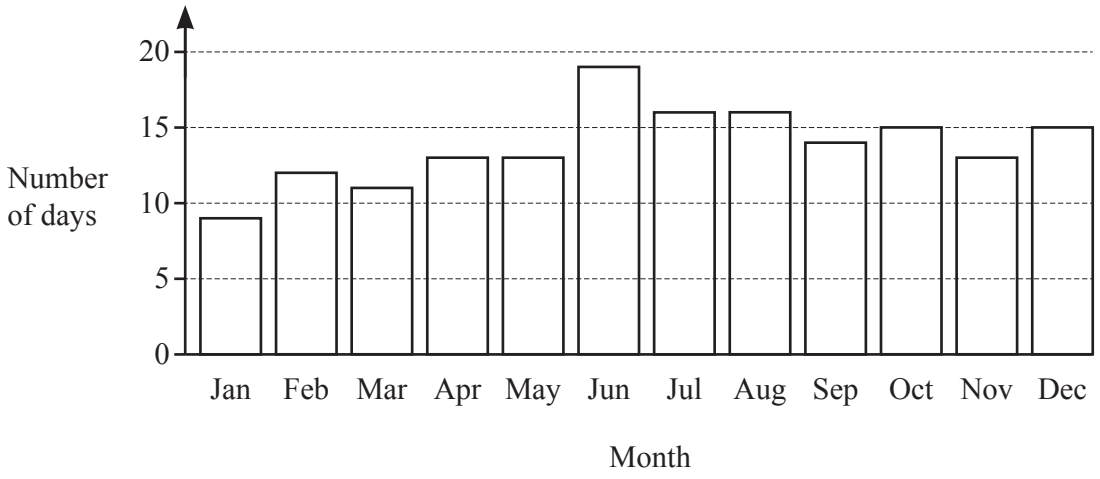
(a) Write down the month with the least amount of rainfall.

View solution

..... [1]

(b) This bar chart shows the number of days it rained each month for the same year in this city.

View solution



Mia says that the months with the most rainfall also have the greatest number of days it rained.

Explain why she is wrong.

.....

..... [1]

2 Complete this bill.

View solution

2.5 kg potatoes at \$1.12 per kg		\$ .....
..... kg bananas at \$1.05 per kg		\$ .....
Total	=	\$ 4.69

[3]

3 **(a)** Write 97.4236 correct to 3 decimal places.

View solution

..... [1]

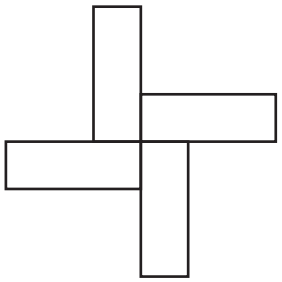
(b) Write down the reciprocal of 2.

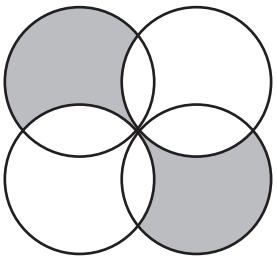
View solution

..... [1]

4 Write down the order of rotational symmetry of each shape.

View solution





....

[2]

5 The mean of seven numbers is 16.

View solution

Six of these numbers are 12, 20, 19, 10, 21 and 13.

Find the seventh number.

..... [2]

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6 In triangle ABC, $BC = 7.6\,\text{cm}$ and $AC = 6.2\,\text{cm}$.

View solution

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)** This table shows the temperature, in °C, at midnight and at 3 pm for four cities on the same day.

View solution

City	Temperature at midnight (°C)	Temperature at 3 pm (°C)
Sydney	21	28
Oslo	–3	1
Toronto	–18	–8
Seoul	–5	4

Use the table to complete this statement.

The city with the biggest difference in temperature between midnight and 3 pm

is ..... with a difference of .....°C. [2]

(b) The temperature at midnight in Moscow was –11 °C.
At 3 pm the temperature has increased by 5 °C.

View solution

Work out the temperature at 3 pm.

..... °C [1]

8 Calculate. $\dfrac{4}{\sqrt{0.0025}}$

View solution

..... [1]

9 Thor changes 40 000 Icelandic Krona into dollars when the exchange rate is 1 krona = \$0.0099 .

Work out how many dollars he receives.

View solution

\$ ..... [1]

10 Ethan invests \$6400 at a rate of 2.6% per year simple interest.

Calculate the total value of his investment at the end of 3 years.

View solution

\$ ..... [3]

11 A straight line, l, has equation $y = 5x + 12$.

(a) Write down the gradient of line l.

View solution

..... [1]

(b) Find the coordinates of the point where line l crosses the x-axis.

View solution

(..... , ...) [2]

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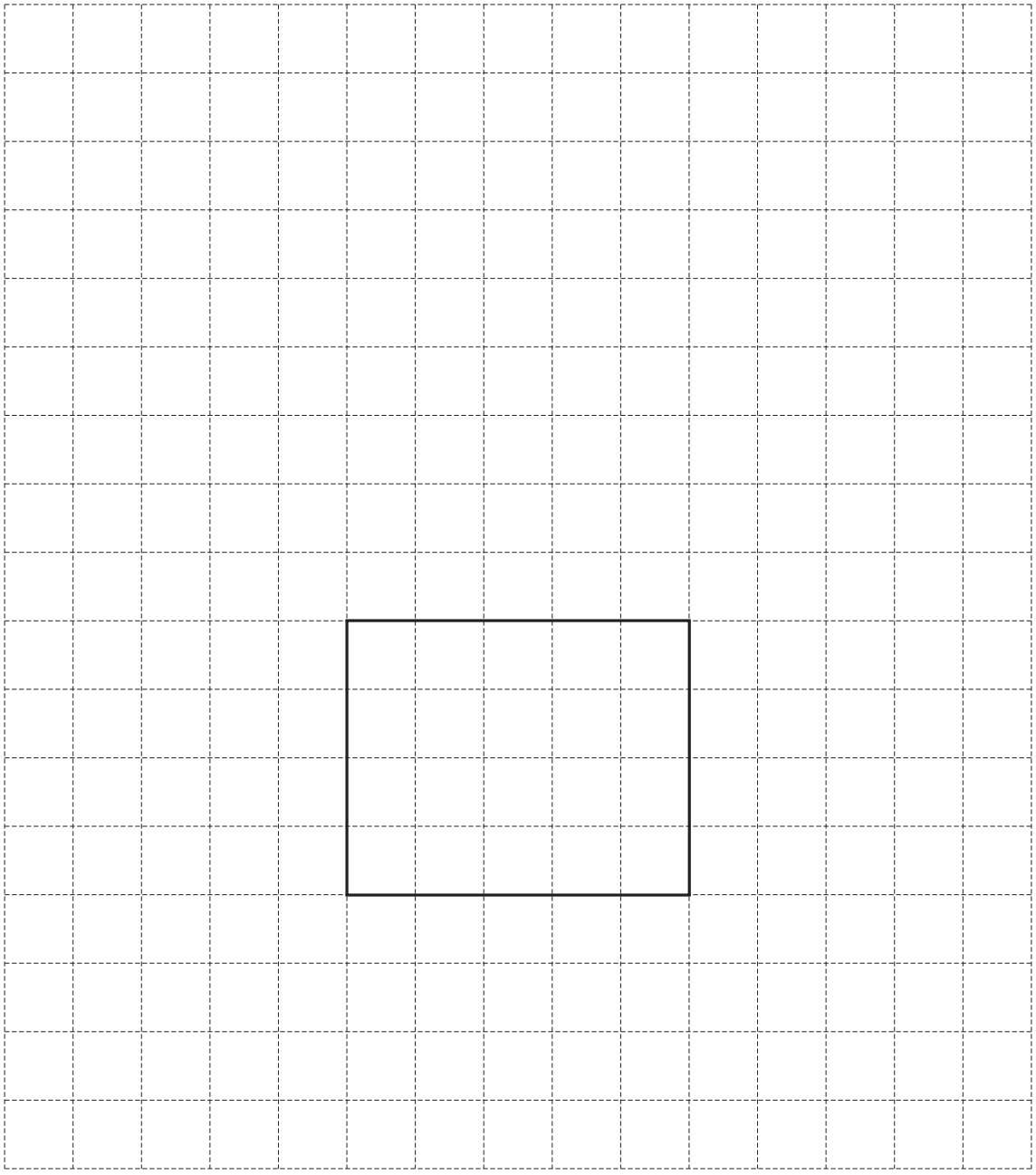
12 **(a)** A cuboid has length 5 cm, width 4 cm and height 3 cm.

View solution

On the 1 cm^2 grid, complete the net of the cuboid.
One face has been drawn for you.



[3]

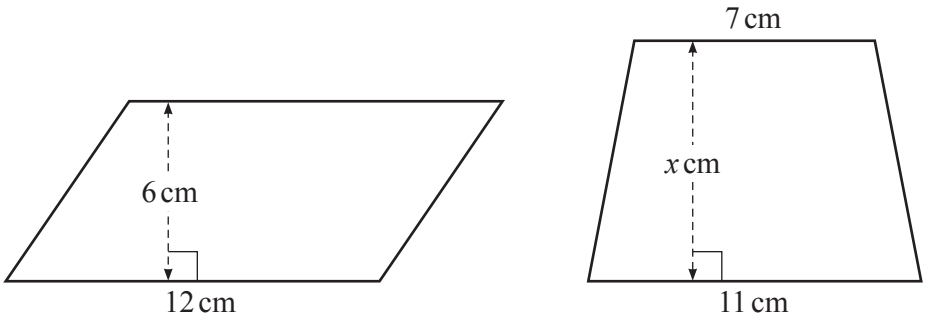
(b) Find the volume of the cuboid.

View solution

..... cm^3 [2]

13

View solution



NOT TO SCALE

The area of the parallelogram is the same as the area of the trapezium.

Work out the value of x.

$x =$ ..... [3]

14 The length, l cm, of a line is 18.3 cm, correct to the nearest millimetre.

View solution

Complete this statement about the value of l.

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

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15 By writing each number correct to 1 significant figure, estimate the value of

View solution

$$\frac{37.8 \times 13.2}{28.5 + 22.1}.$$

You must show all your working.

..... [2]

16 A bag contains 7 red discs, 5 green discs and 2 pink discs.

View solution

Helen takes one disc at random, records the colour and replaces it in the bag.
She does this 140 times.

Find how many times she expects to take a green disc.

..... [2]

17 Expand the brackets and simplify.

View solution

$$4(2m + 3) - 5(m - 2)$$

..... [2]

18 Ramond walks 2460 metres in 33 minutes.

View solution

Work out Ramond's average speed in kilometres per hour.

..... km/h [3]

19 A regular polygon has an exterior angle of 20°.

View solution

Work out the number of sides of this polygon.

..... [1]

20 **Without using a calculator**, work out $1\frac{1}{7} \times 2\frac{1}{10}$.

View solution

You must show all your working and give your answer as a mixed number in its simplest form.

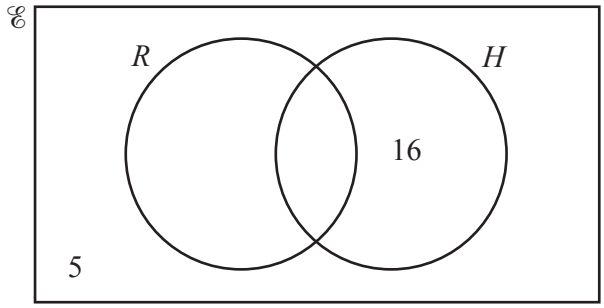
..... [3]

21 $\mathscr{E}$ = {children in a group}
R = {children who own a rabbit}
H = {children who own a hamster}

There are 40 children in the group.
19 children own a rabbit.
27 children own a hamster.

(a) Complete the Venn diagram.

View solution



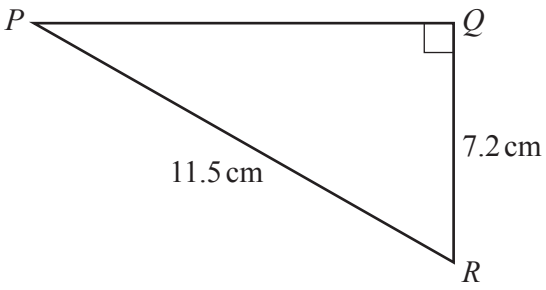
[2]

(b) Write down $n(R \cap H)$.

View solution

..... [1]

22



NOT TO SCALE

View solution

Calculate PQ.

$PQ =$ ..... cm [3]

23 Solve the simultaneous equations.
You must show all your working.

View solution

$$3x - 8y = 22$$
$$x + 4y = 4$$

$x =$ .....

$y =$ ..... [3]

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