Cambridge IGCSE

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

CANDIDATE NAME	

CENTRE NUMBER		CANDIDATE NUMBER	

MATHEMATICS 0626/01

Paper 1 (Core) **October/November 2019**

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 document consists of **15** printed pages and **1** blank page.

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[Turn over

1 Write down the value of the digit 3 in the number 723 502.

.... [1]

2 Jenna asks the members of a sports club how many whole hours they spend training each week.
The results are shown below.

$$14 \quad 7 \quad 9 \quad 17 \quad 18$$

$$5 \quad 19 \quad 20 \quad 21 \quad 24$$

$$17 \quad 13 \quad 19 \quad 18 \quad 16$$

$$17 \quad 18 \quad 22 \quad 23 \quad 28$$

Jenna starts to draw a table of her results.

Complete Jenna's table.

Number of hours	Tally	Frequency
5 to 9	|||	3
10 to 14			
15 to 19	|||	
20 to 24	|||	
25 to 29		

[2]

3

3 Write these values in order, smallest first.

$$74\% \qquad \sqrt{0.64} \qquad \frac{3}{4} \qquad 0.085$$

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

4 The table shows some places and their heights above or below sea level.

Place	Height (m)
Baku	−28
Ben Nevis	1345
Bombay Beach	−69
Lake Eyre	−16

(a) Which of these places has the lowest height?

.... [1]

(b) Work out the difference between the heights of Ben Nevis and Baku.

....m [1]

(c) The height of Lake Assai is 139 metres lower than Lake Eyre.

Find the height of Lake Assai.

....m [1]

5 A supermarket sells tins of beans as single tins or in a multipack of 4 tins.

Special Offer
20% off

Beans

Multipack
98p
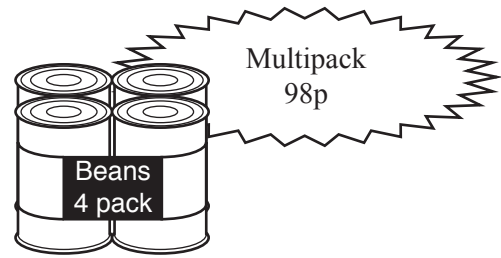
Beans
4 pack

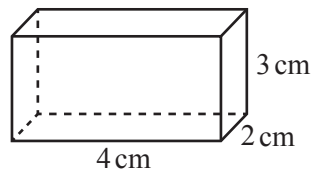Before the special offer a single tin of beans cost 30p.

Jack wants to buy 4 tins of beans.
He wants to pay as little as possible.

Should Jack buy the multipack or 4 single tins in the special offer?
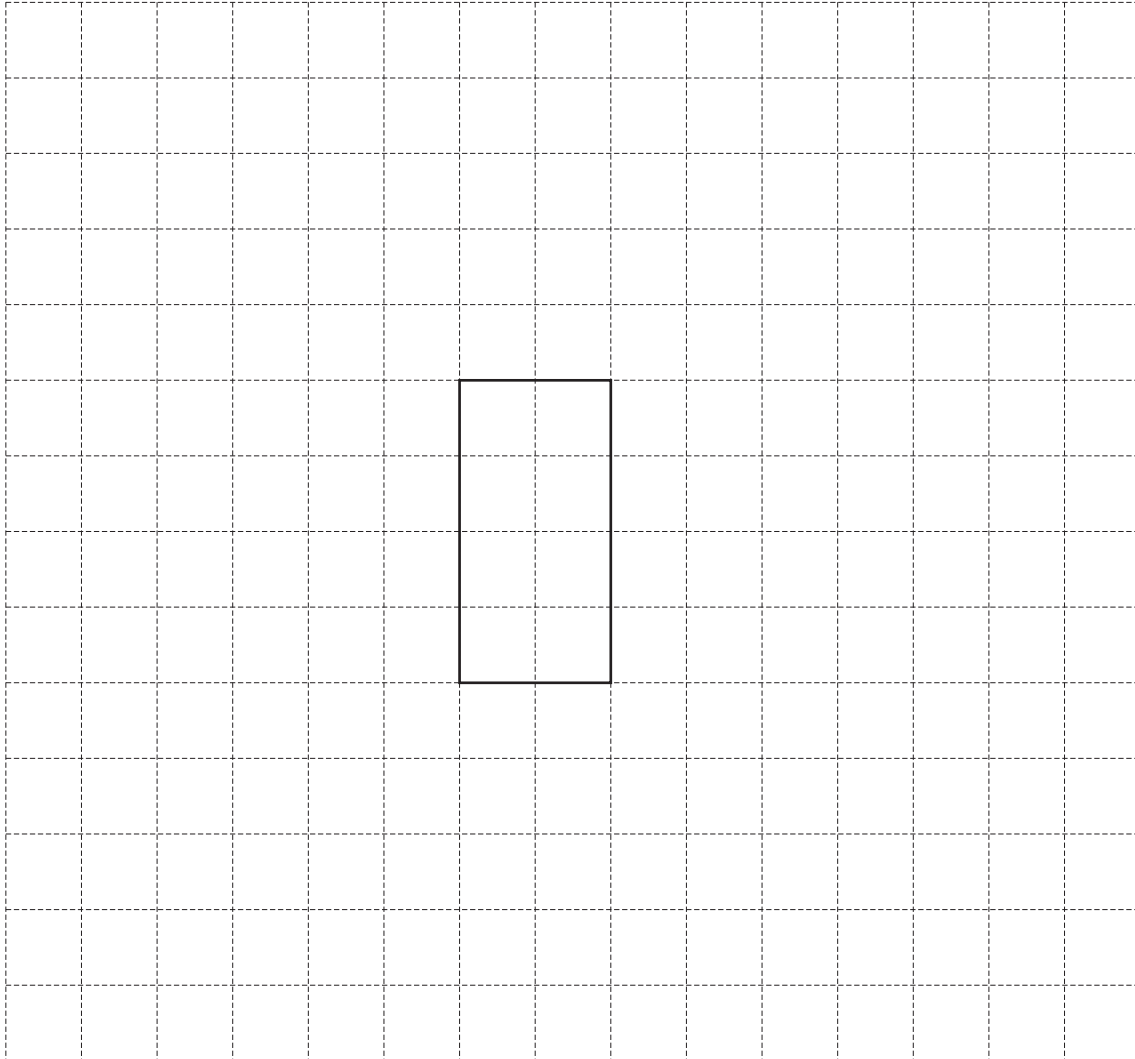Show how you decide.

.... [3]

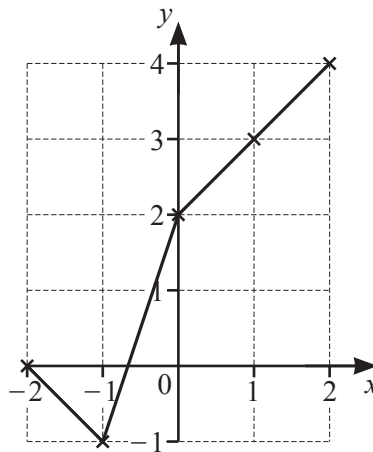6   The diagram shows a cuboid.

3 cm
2 cm
4 cm

NOT TO
SCALE

On the 1 cm square grid, complete an accurate net for this cuboid.
One face has been drawn for you.

[3]

7 Gita is trying to draw the graph of $y = x + 2$ for values of x between -2 and 2. Here is her graph.

Gita's friend says:

I can tell from the shape of your graph that you have made a mistake.

(a) Explain why Gita's friend is correct.

....

.... [1]

(b) Explain what Gita needs to do to her graph to correct her mistake.

....

.... [1]

8 Leon goes on holiday to the USA.
When he comes home to the UK, he has $340 of his holiday money left.
He changes his dollars to pounds when the exchange rate is £1 = $1.25.

How many pounds does Leon receive?

£ .... [2]

9 (a) Work out the value of 5^6.

.... [1]

(b) $5^n = 1$

Write down the value of n.

$n =$ .... [1]

(c) Write $\dfrac{7 \times 7 \times 7 \times 7 \times 7 \times 7}{7}$ as a **single** power of 7.

.... [2]

10 Paolo rides his bicycle around a circular track.
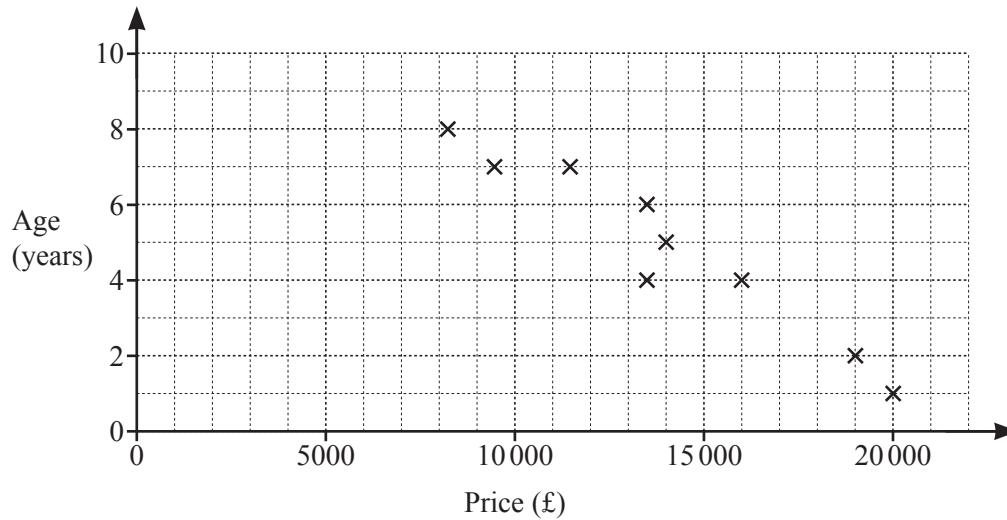The radius of this track is 0.3 km.
Paolo rides around the track 5 times.

Work out the total distance Paolo rides.

.... km [2]

11 Calculate.

$$10.35 - \frac{9.76}{3.05 \times 2}$$

.... [1]

12

A dealer sells used caravans.
The scatter diagram shows the price and age of some of the caravans he sells.
All the caravans sleep 6 people.

(a) There is a negative correlation between the price and the age of these caravans.

Explain how the scatter diagram shows this.

....

.... [1]

(b) On the grid, draw a line of best fit for this data. [1]

(c) Estimate the price of a caravan that sleeps 6 people and is 3 years old.

£ .... [1]

(d) Give a reason why the scatter diagram should **not** be used to estimate the price of a 5-year-old caravan that sleeps 2 people.

....

.... [1]

13 (a) Write down the co-ordinates of the point where the graph of $y = 3x + 7$ crosses the *y*-axis.

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

(b) Write down the gradient of the graph of $y = 3x + 7$.

.... [1]

(c) The graph of $y = 3x + 7$ crosses the graph of $y = 4$ at the point *P*.

Find the co-ordinates of *P*.

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

14 (a) Solve.

$$5x - 2 = 7 - x$$

$x =$ .... [2]

(b) Solve.

$$\frac{16 + x}{7} = 3$$

$x =$ .... [2]

15 Change $5\,\text{m}^3$ into cm^3.

....cm^3 [1]

16 Find the highest common factor (HCF) of 315 and 225.

.... [2]

17 A bus travels at a constant speed of 90 kilometres per hour.

Calculate the distance the bus travels in 22 seconds.

.... km [3]

18 (a)
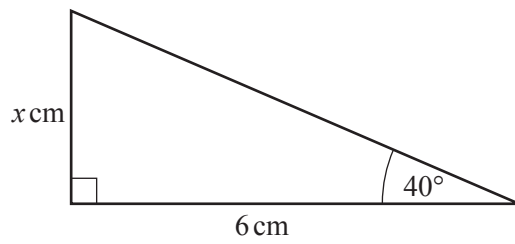
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Find the value of *x*.

$x = $ .... [2]

(b)
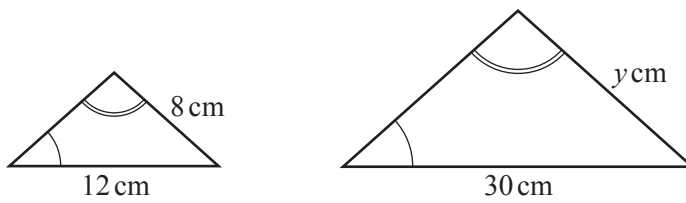
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The diagram shows two mathematically similar triangles.

Find the value of *y*.

$y = $ .... [2]

19 Simplify.

$$\frac{8x^7y^6}{4x^2}$$

.... [2]

20 Adele and Pierre both walked their family dog on 1 January.
After that, Adele walks the dog every 8th day and Pierre walks the dog every 12th day.

After 1 January, how many times do Adele and Pierre both walk the dog on the same day during this year (365 days)?

.... [3]

 [Turn over

21 **(a)** Here are the first four terms of a sequence.

$$2 \quad 9 \quad 16 \quad 23$$

Find the nth term of this sequence.

.... [2]

(b) Here are the first four terms of a different sequence.

$$1 \quad 8 \quad 27 \quad 64$$

(i) Find the next term of this sequence.

.... [1]

(ii) 42 875 is a term in this sequence.

Work out the term number of 42 875.

.... [1]

22   The diagram shows two right-angled triangles, *ABC* and *BCD*.
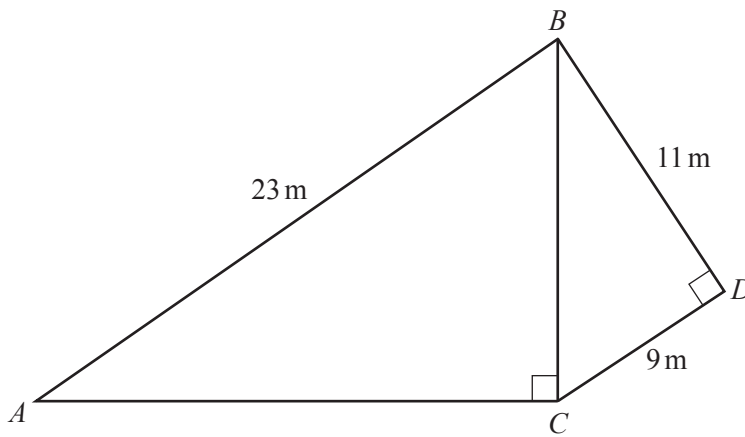
Show that *AC* is 18.1 m correct to 1 decimal place.

[4]

16

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