**Cambridge Assessment International Education**
Cambridge International General Certificate of Secondary Education

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| CANDIDATE NAME | | | | | | | | | |
| CENTRE NUMBER | | | | | | CANDIDATE NUMBER | | | | |

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**CAMBRIDGE INTERNATIONAL MATHEMATICS** **0607/13**

Paper 1 (Core) **May/June 2019**

**45 minutes**

Candidates answer on the Question Paper.

Additional Materials: Geometrical Instruments

**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.
Do not use staples, paper clips, glue or correction fluid.
You may use an HB pencil for any diagrams or graphs.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** the questions.
**CALCULATORS MUST NOT BE USED IN THIS PAPER.**
All answers should be given in their simplest form.
You must show all the relevant working to gain full marks and you will be given marks for correct methods even if your answer is incorrect.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is 40.

This document consists of **10** printed pages and **2** blank pages.


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## Formula List

| | |
|---|---|
| Area, $A$, of triangle, base $b$, height $h$. | $A = \frac{1}{2}bh$ |
| Area, $A$, of circle, radius $r$. | $A = \pi r^2$ |
| Circumference, $C$, of circle, 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 $l$. | $A = \pi rl$ |
| Curved 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 $r$. | $V = \frac{4}{3}\pi r^3$ |

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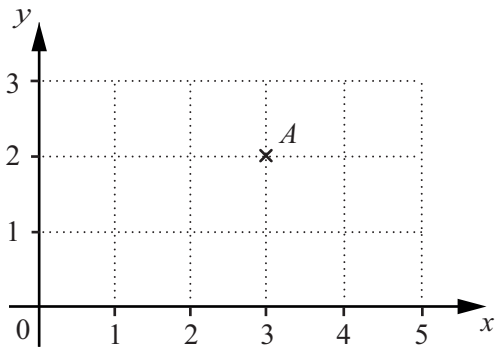
Answer **all** the questions.

**1** Ola gives her grandson \$3 each month.

Work out how much her grandson receives in 1 year.

\$ ..... [1]

**2**




Write down the co-ordinates of point $A$.

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

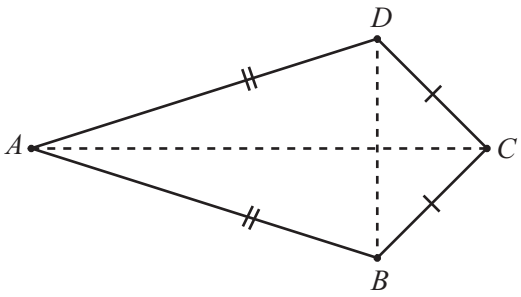
**3** 15 17 21 25 36 38

From the list of numbers write down

**(a)** the prime number, ..... [1]

**(b)** a square number. ..... [1]

**4** *ABCD* is a quadrilateral.




NOT TO SCALE

Write down the mathematical name

**(a)** for this quadrilateral, ..... [1]

**(b)** for triangle *ABD*. ..... [1]

**5** To use his mobile phone, Paul is charged

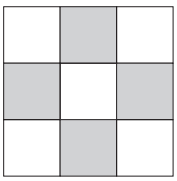
12 cents for each minute plus $20 monthly line rental.

One month Paul used his mobile phone for 30 minutes.

Find the total charge for this month.

$ ..... [2]

**6**



Complete the statement.

The diagram has rotational symmetry of order .....

[1]

**7** Write down which of the following data is discrete.

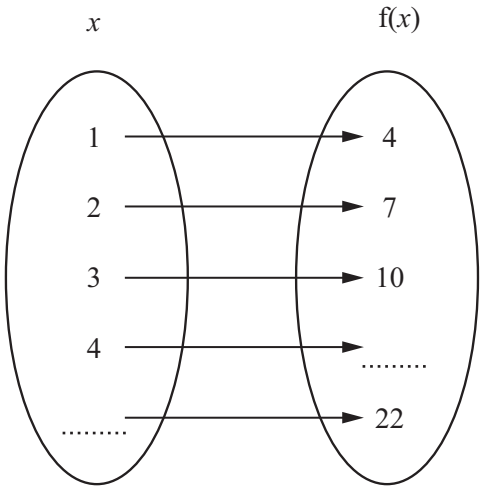
A The weight of a child.

B The number of eggs in a basket.

C The time it takes to bake a cake.

..... [1]

**8** Complete the mapping diagram.



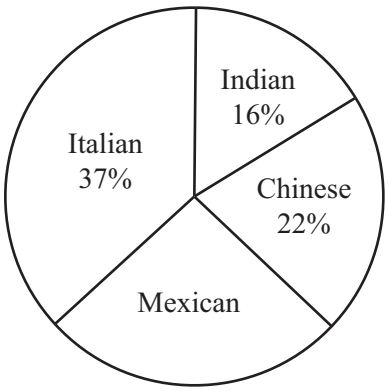

[2]

**9** Use one of the following symbols $>$, $<$ or $=$ to make each statement correct.

1 ..... $20 \div (5 - 3)$

$2 + 3 \times 3$ ..... 11 [2]

**10** 200 people were asked to choose their favourite type of restaurant.
The results are shown in the pie chart.




NOT TO SCALE

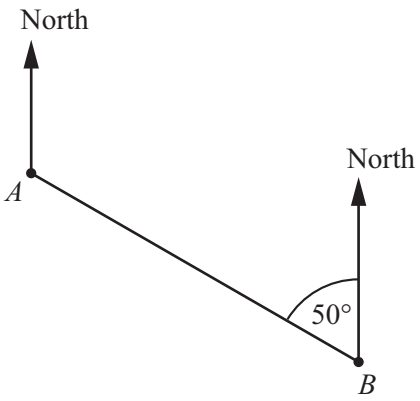
**(a)** Find the sector angle for Mexican restaurants.

.....[2]

**(b)** How many of the 200 people chose Chinese restaurants?

.....[2]

**11**




NOT TO SCALE

Find the bearing of point *B* from point *A*.

.....[2]

**12** Solve $\frac{1}{2}x = 5$.

$x =$ ..... [1]

**13** Change 12 310 $cm^2$ into $m^2$.

..... $m^2$ [1]

**14** Adil and Serena share a prize in the ratio Adil : Serena = 3 : 7.
Adil receives $60.

Work out how much Serena receives.

$ ..... [2]

**15** James buys a bottle of cola for 40 cents.
He then sells it for 50 cents.

Work out his percentage profit.

..... % [2]

**16** A circle has radius 5 cm.

Find the area of the circle giving your answer in terms of $\pi$.

..... $cm^2$ [1]

**17** Find the equation of the line that is parallel to the $y$-axis and passes through the point (3, 0).

..... [2]

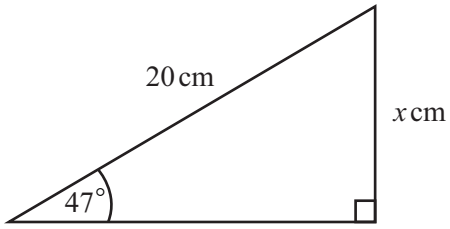
**18** Here are the first five terms in a sequence.

–1 5 11 17 23

Find the $n$th term.

..... [2]

**19**




NOT TO SCALE

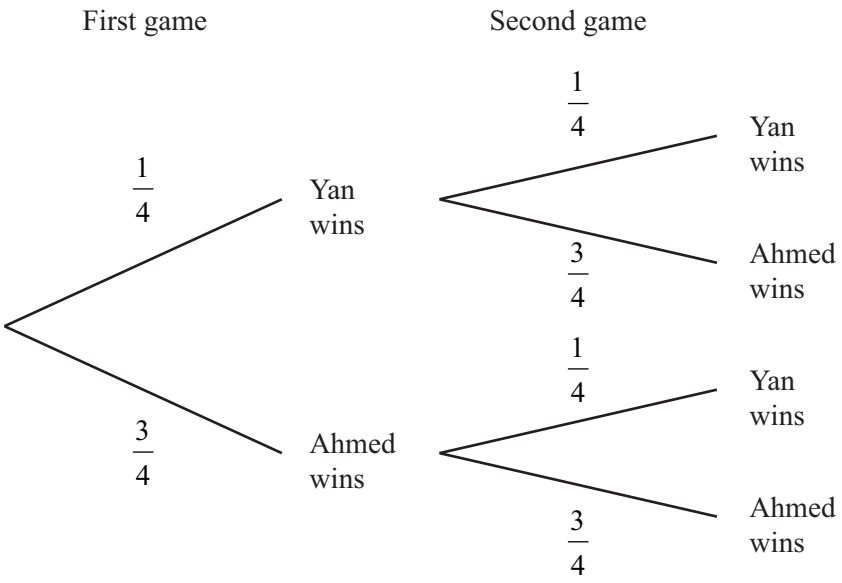
Put a ring around the correct expression for the distance $x$.

20 tan 47° 20 sin 47° 20 cos 47°

[1]

**20** Yan and Ahmed play two games.

The probability that Yan wins a game is $\frac{1}{4}$.




Work out the probability that Yan wins exactly one game.

..... [2]

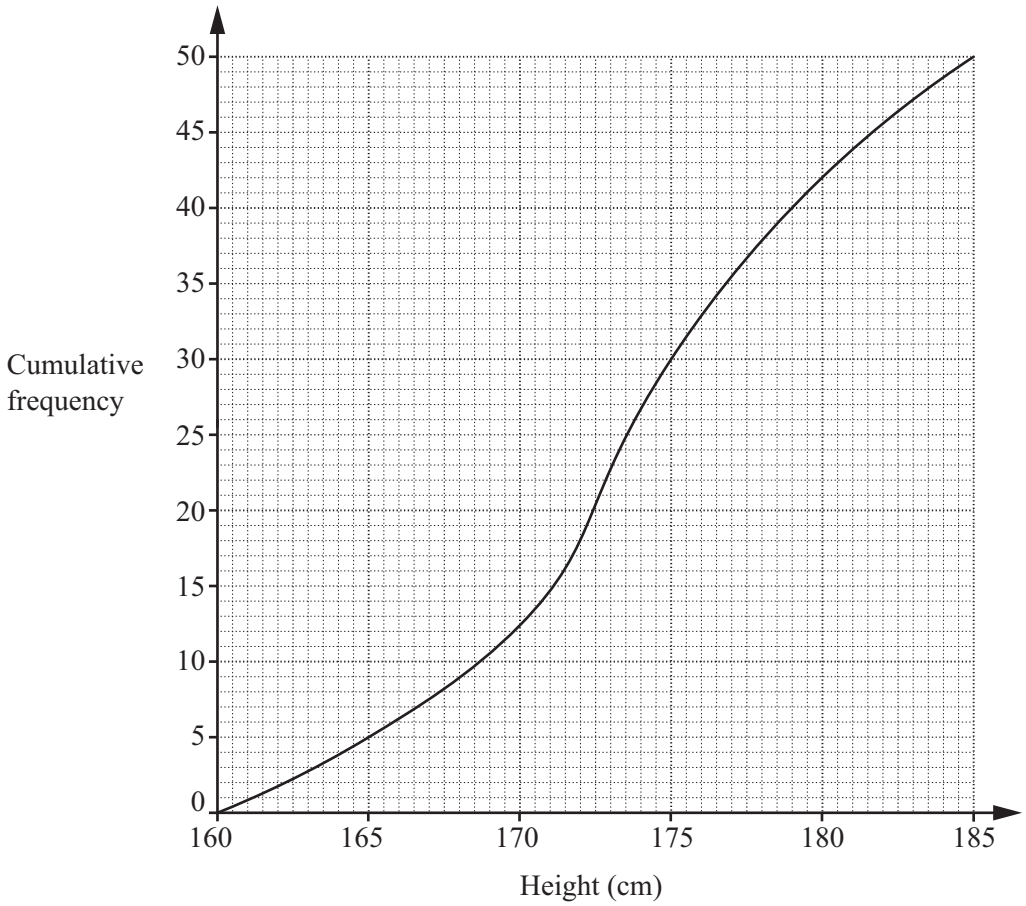
**21** Solve the simultaneous equations.

$$3x + y = 4$$
$$2x - y = 6$$

$x =$ .....

$y =$ ..... [2]

**22**




The diagram shows a cumulative frequency curve for the heights of 50 students.

Estimate

**(a)** the median height,

..... cm [1]

**(b)** the inter-quartile range.

..... cm [2]

**23** The graph of $y = x^3$ is translated by the vector $\begin{pmatrix} 0 \\ -3 \end{pmatrix}$.

Write down the equation of the new graph.

$y =$ ..... [1]

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