# Cambridge IGCSE™

**CAMBRIDGE INTERNATIONAL MATHEMATICS** **0607/12**

Paper 1 (Core) **May/June 2020**

**45 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 and you will be given marks for correct methods even if your answer is incorrect.
- All answers should be given in their simplest form.

## INFORMATION

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [ ].

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

**[Turn over**

**2**

**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 $r$.　　　　　$V = \frac{4}{3}\pi r^3$

**3**

Answer **all** the questions.

**1** **(a)** Write the number 30 000 010 in words.

................................................................................................................................................... [1]

**(b)** Write the number thirty thousand and one hundred in figures.

.................................................. [1]

**2** Work out.

$$16 - 5 + 2$$

.................................................. [1]

**3**
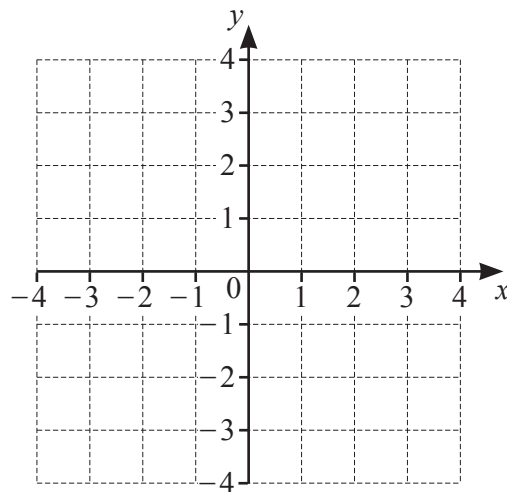


On the grid, plot the point (3, 2). [1]

**4** cm      cm$^2$      cm$^3$      m      m$^2$      m$^3$      km      km$^2$      km$^3$

From the list, write down the best unit to use to measure the floor area of a school.

.................................................. [1]

**5** Complete the statement with $<$, $=$ or $>$.

200 ................... 80 [1]

**6 (a)** These are the first four terms of a sequence.

2      5      8      11

Write down the next term in this sequence.

................................................. [1]

**(b)** These are the first five terms of another sequence

0.1      1      10      100      1000
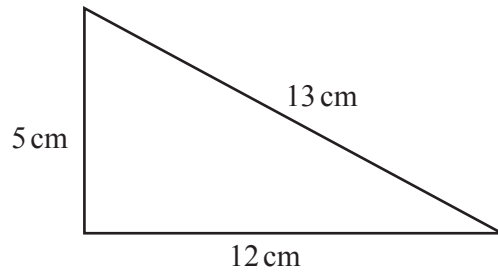
Write down the rule for continuing this sequence.

.................................................................................................................................... [1]

**7** Write 0.16 as a fraction in its simplest form.

................................................. [2]

**8** Change 6.3 kilograms into grams.

............................................... g [1]

**9**



NOT TO
SCALE

13 cm

5 cm

12 cm

Work out the perimeter of this triangle.

.............................................. cm  [1]

**10** Work out $0.1 \times 0.3$ .

.................................................  [1]

**11** This table shows the distances, in kilometres, between four cities in the USA.

Boston

| 1580 | Chicago | | |
|------|---------|---|---|
| 4800 | 3243 | Los Angeles | |
| 2414 | 2218 | 4394 | Miami |

**(a)** Write down the distance between Boston and Miami.

.............................................km  [1]

**(b)** Write down the name of the nearest city to Chicago.

.................................................  [1]

**12** The probability that a light bulb is faulty is 5%.

Find the probability that a light bulb is not faulty.

.................................................  [1]
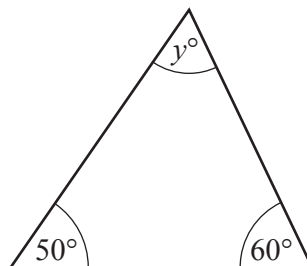
**13**
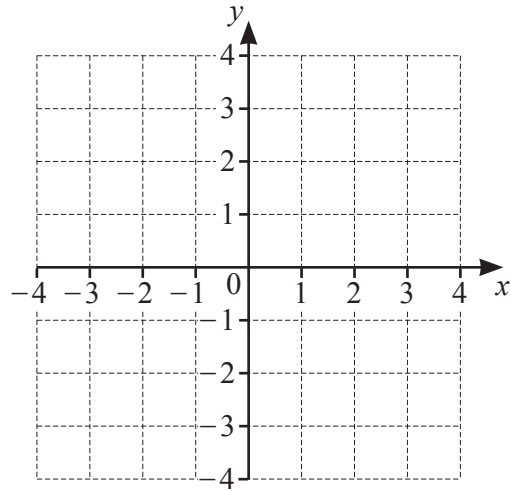


On the grid, draw the line $x = 2$. [1]

**14**
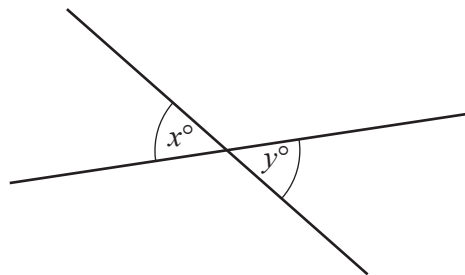


NOT TO SCALE

The diagram shows two straight lines.

Complete the statement.

The value of $x$ is equal to the value of $y$ because they are .................................................... angles. [1]

**15**



NOT TO SCALE

Find the value of $y$.

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

**16** Carlo drives 150 km in 2 hours.

Work out his average speed.

..................................... km/h  [1]

**17** Solve $16 - 2x = 4 - 5x$.

$x =$ ................................................ [2]

**18**
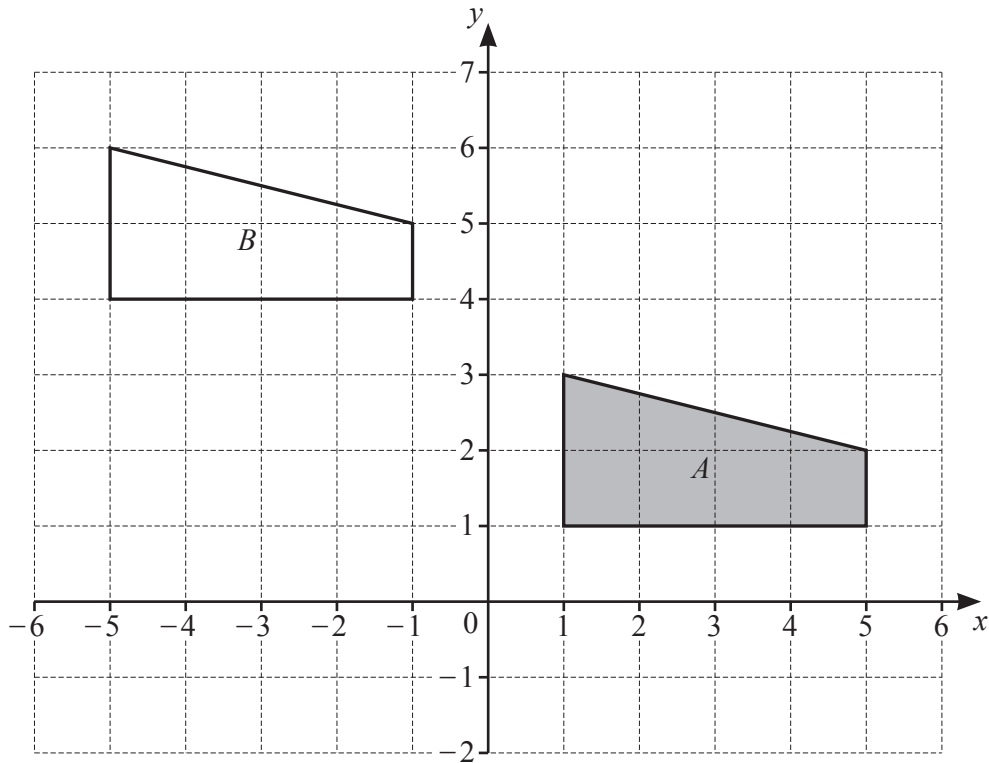


Describe fully the **single** transformation that maps shape *A* onto shape *B*.

...............................................................................................................................................

............................................................................................................................... [2]

**19** Work out the size of one exterior angle of a regular hexagon.

.................................................. [2]

**20**
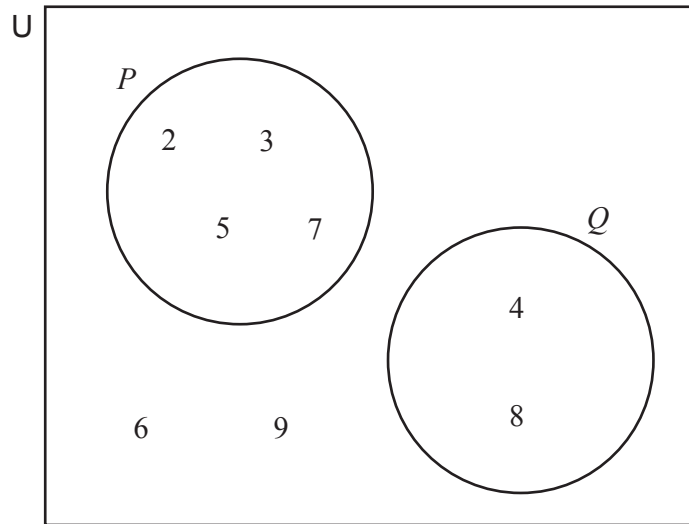


Write down

**(a)** the set $P'$,

{ ............................................. } [1]

**(b)** the set $P \cup Q$,

{ ............................................. } [1]

**(c)** n($Q$).

.................................................. [1]

**21**  *A* is the point $(-3, 8)$ and *B* is the point $(5, 2)$.

Find the coordinates of the mid-point of *AB*.

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

**22**  Find the gradient of the line with equation  $y = 8 - 4x$.

.................................................. [1]

**23**  The height of a triangle is $8\,\text{cm}$ and its area is $40\,\text{cm}^2$.

Find the length of the base.

............................................ cm [2]

**24**
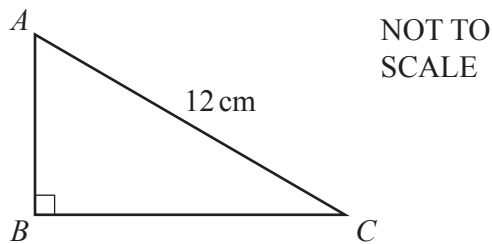


The diagram shows a right-angled triangle *ABC* with $AC = 12$ cm.

$$\sin C = 0.6 \qquad \cos C = 0.8 \qquad \tan C = 0.75$$

Find the length of *AB*.

............................................ cm [2]

25 This cumulative frequency diagram shows the mass, in kilograms, of each of 120 animals.
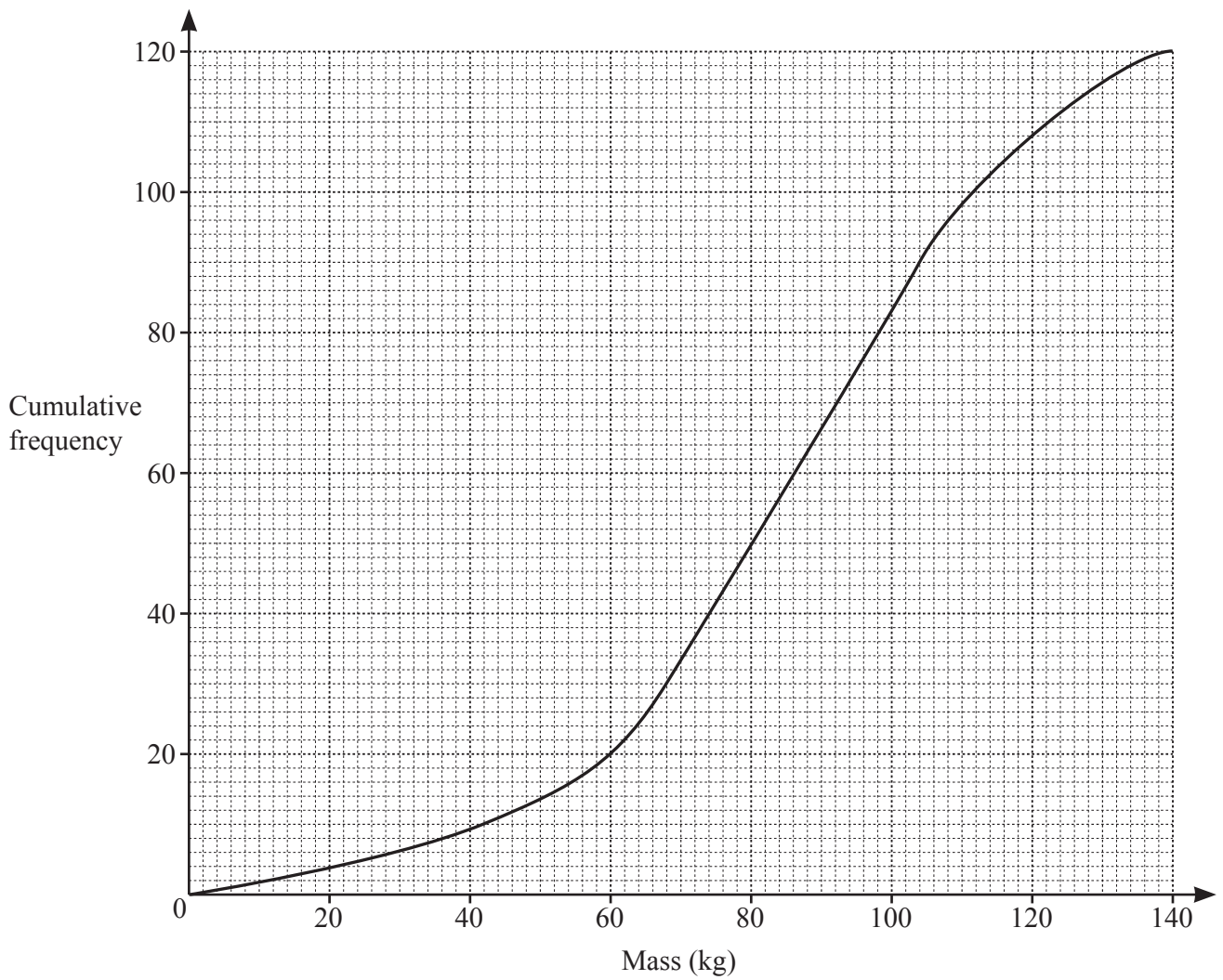


Use the diagram to find

(a) the median,

........................................ kg [1]

(b) the inter-quartile range.

........................................ kg [2]

**26**
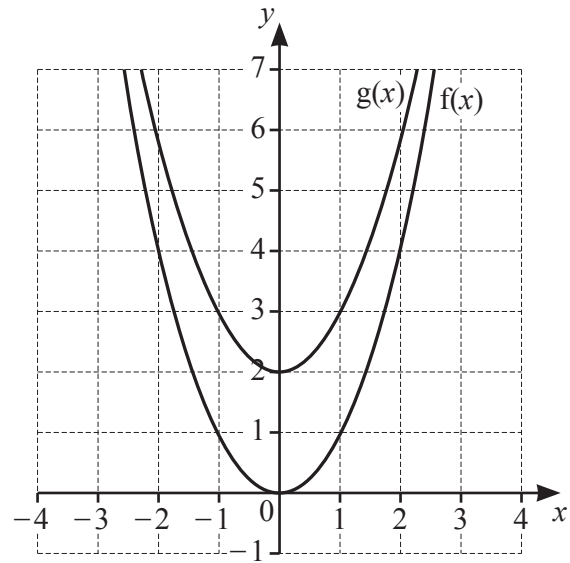


The diagram shows the graphs of $y = f(x)$ and $y = g(x)$.
The graph of $y = g(x)$ is a translation of the graph of $y = f(x)$.

Write down the function $g(x)$ in terms of $f(x)$.

$g(x) =$ .................................................. [1]

## 12

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