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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.

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 .

$$V = \frac{4}{3}\pi r^3$$

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.

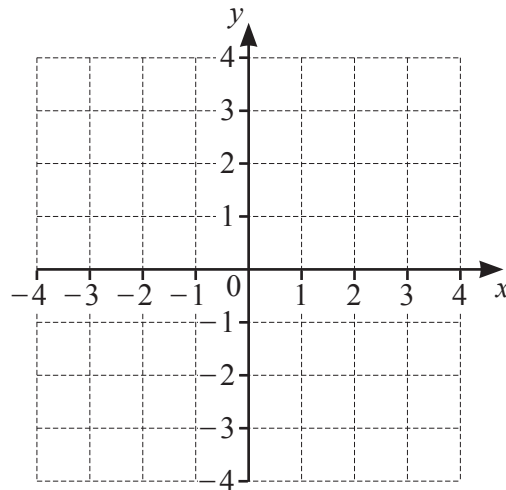
..... [1]

- 2 Work out.

$$16 - 5 + 2$$

..... [1]

3



On the grid, plot the point (3, 2).

[1]

- 4 cm cm² cm³ m m² m³ km km² km³

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]

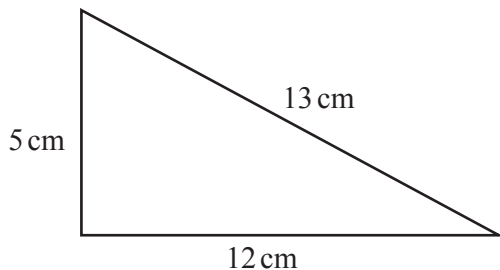
7 Write 0.16 as a fraction in its simplest form.

..... [2]

8 Change 6.3 kilograms into grams.

..... g [1]

9



NOT TO SCALE

Work out the perimeter of this triangle.

..... cm [1]

10 Work out 0.1×0.3 .

..... [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.

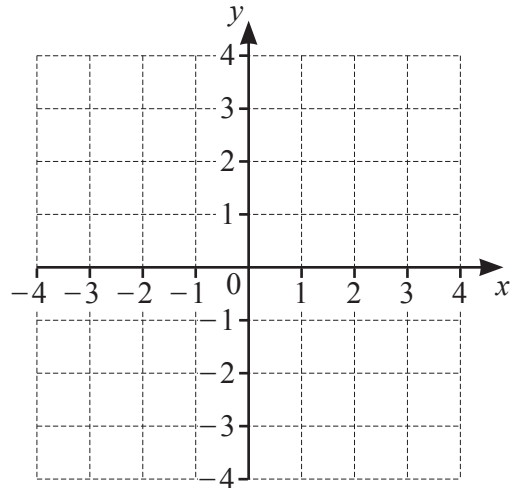
..... [1]

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

Find the probability that a light bulb is not faulty.

..... [1]

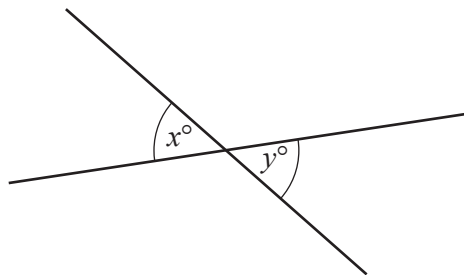
13



On the grid, draw the line $x = 2$.

[1]

14



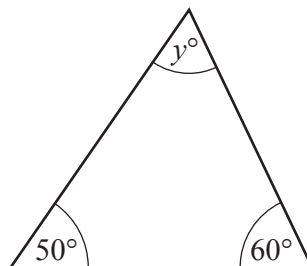
NOT TO
SCALE

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.

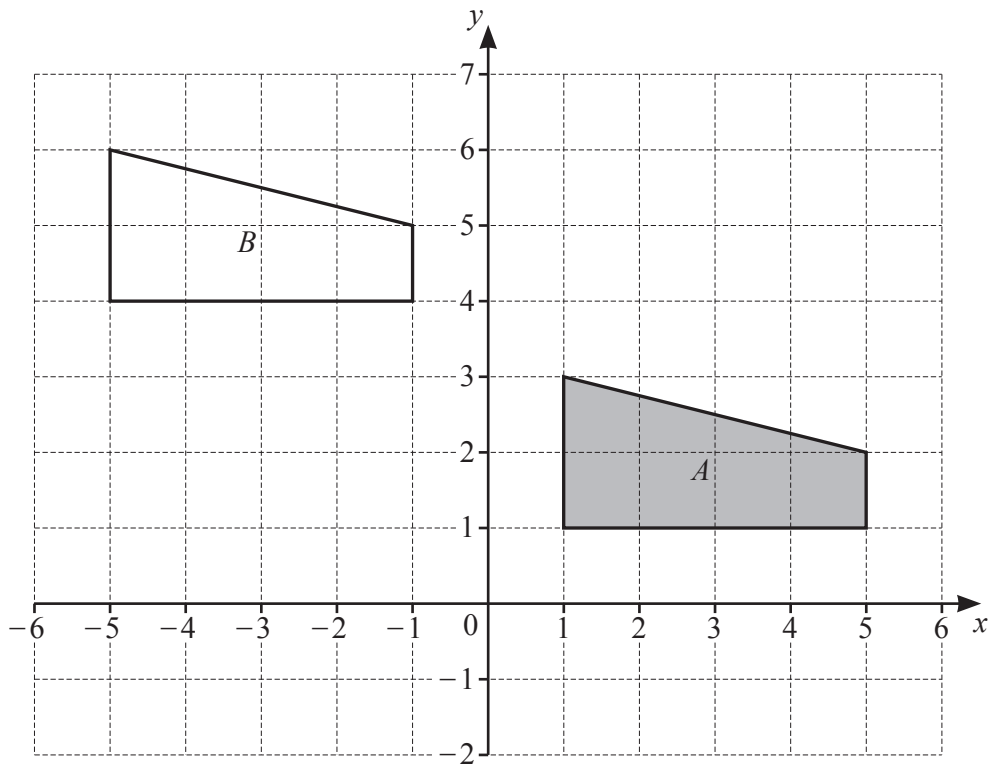
Work out his average speed.

..... km/h [1]

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

$x =$ [2]

18



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

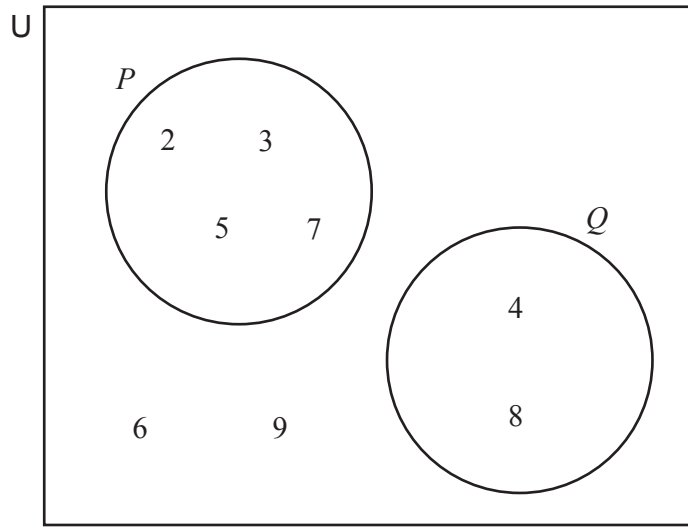
.....

..... [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 $y = 8 - 4x$.

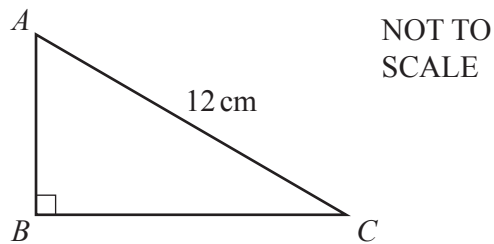
..... [1]

- 23 The height of a triangle is 8 cm and its area is 40 cm^2 .

Find the length of the base.

..... cm [2]

- 24



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

$$\sin C = 0.6$$

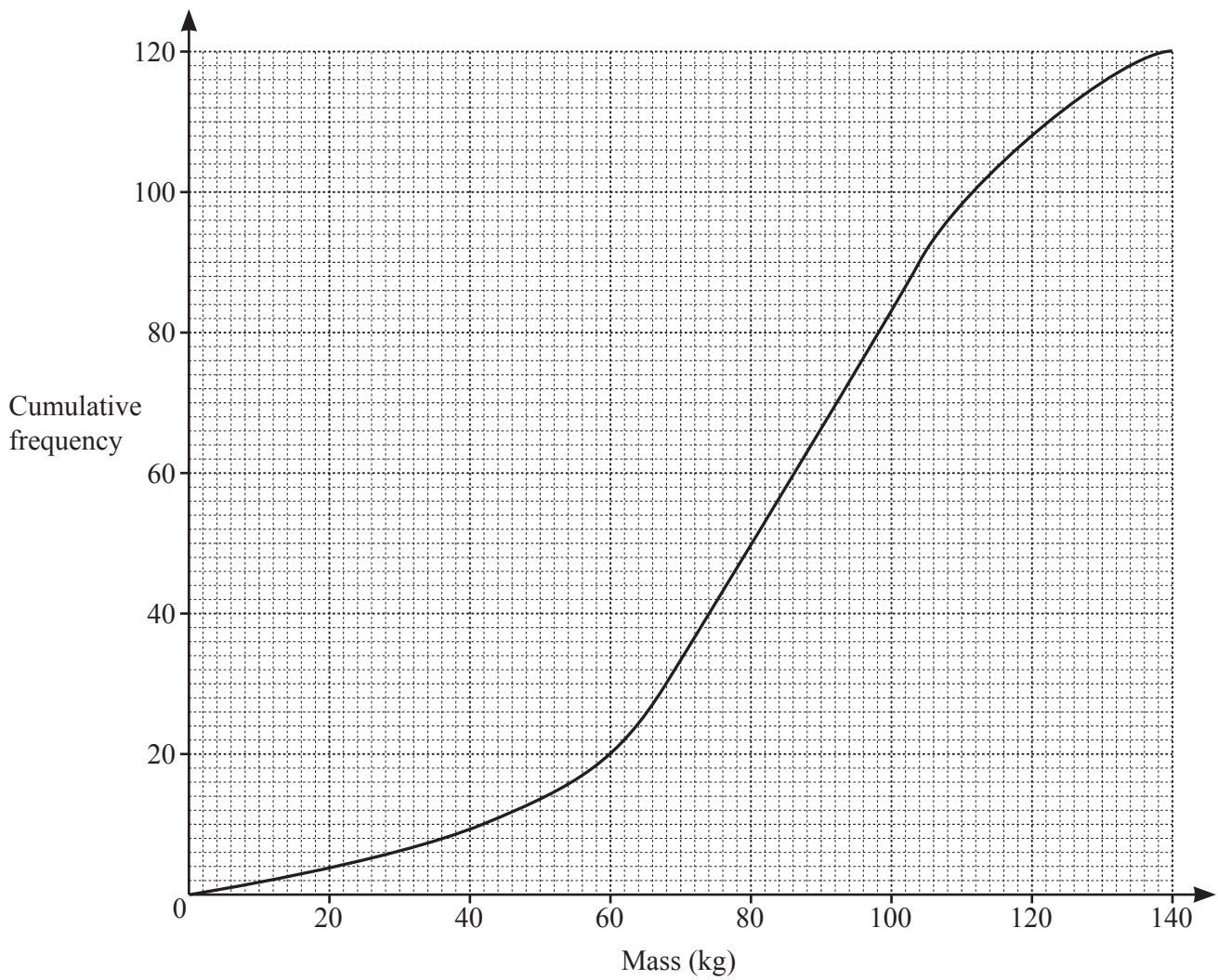
$$\cos C = 0.8$$

$$\tan C = 0.75$$

Find the length of AB .

..... cm [2]

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



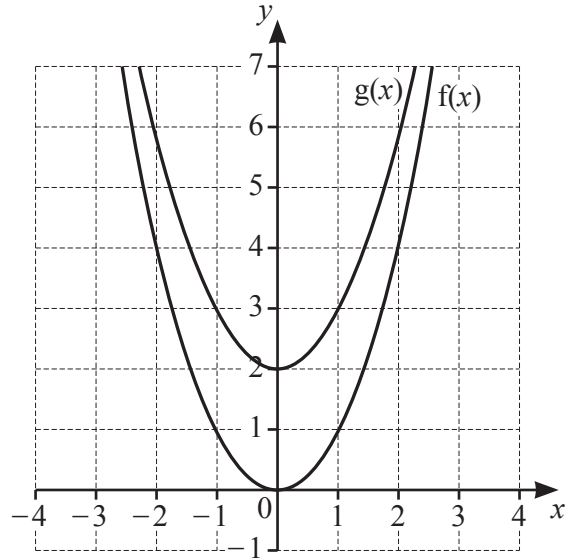
Use the diagram to find

(a) the median,

..... kg [1]

(b) the inter-quartile range.

..... kg [2]



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 $f(x)$.

$g(x) = \dots\dots\dots [1]$

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