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CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/11

Paper 1 (Core)

May/June 2021

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 8 pages.

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

- [1]

- [1]

Line is a tangent to the circle, centre O . [1]

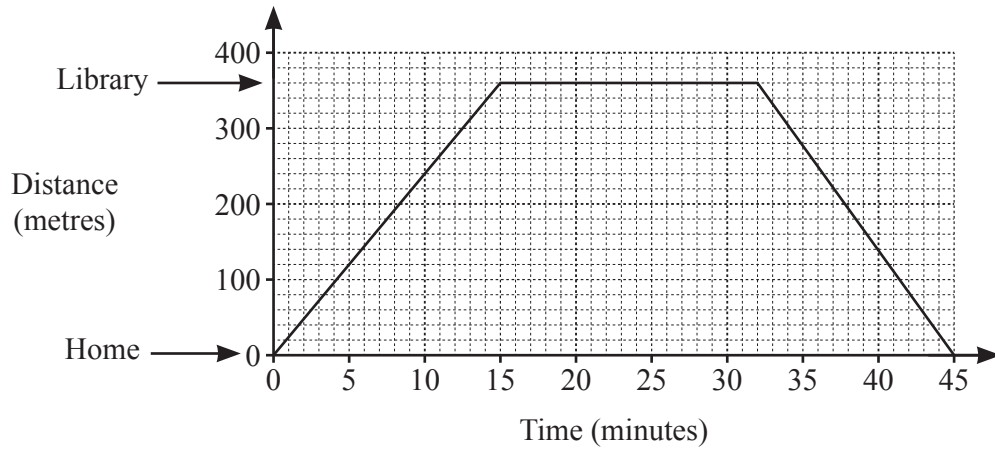
- litres [1]

- [1]

- [1]

- [1]

7



The travel graph shows Suba's bicycle journey from her home to the library and back.

(a) Write down the distance from Suba's home to the library.

..... m [1]

(b) Write down the number of minutes Suba was in the library.

..... min [1]

8 These are the test results of 12 students.

17 21 9 11 24 21 8 15 12 6 10 21

(a) Find the median.

..... [2]

(b) Write down the mode.

..... [1]

(c) Find the range.

..... [1]

9 $P = \{\text{Prime number less than } 10\}$

Write down the members of set P .

..... [2]

10 Work out 60% of 35.

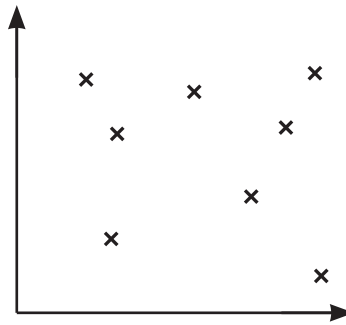
..... [2]

11 Simplify.

$$w \times w \times w$$

..... [1]

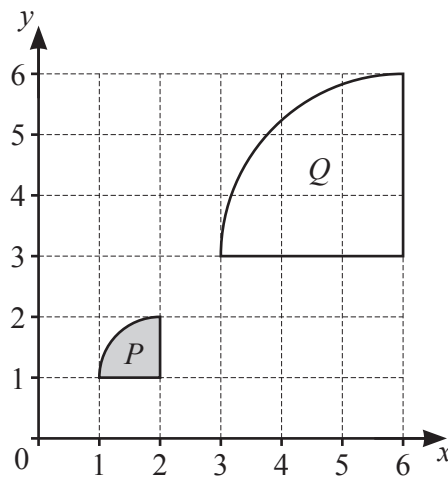
12



What type of correlation is shown on the scatter diagram?

..... [1]

13

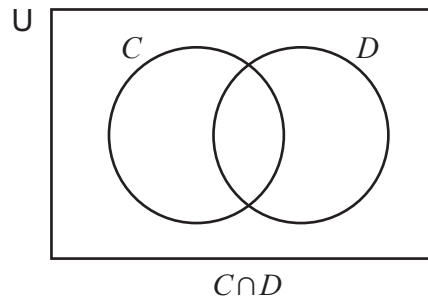
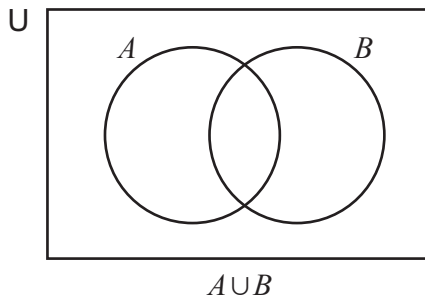


Describe fully the **single** transformation that maps shape P onto shape Q .

.....

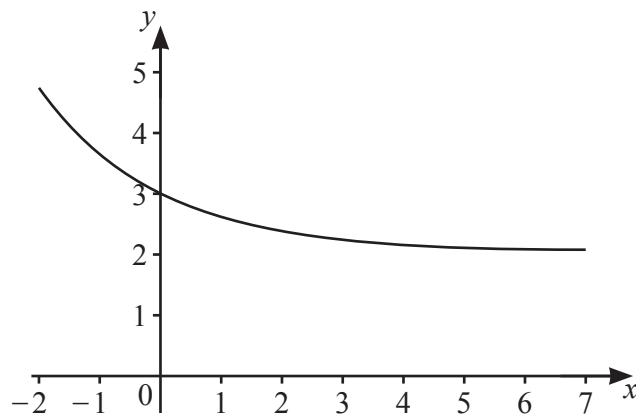
..... [3]

- 14 Shade the region indicated below each Venn diagram.



[2]

15



The diagram shows the graph of a function with one asymptote.

On the diagram, draw the asymptote.

[1]

- 16 Solve the inequality $2x \leq 10$.

..... [1]

- 17 Find the highest common factor (HCF) of 70 and 80.

..... [1]

- 18 A train travels 250 metres in 5 seconds.

Work out its average speed in kilometres per hour.

..... km/h [3]

19 Simplify.

$$\frac{12}{x} \times \frac{5}{2y}$$

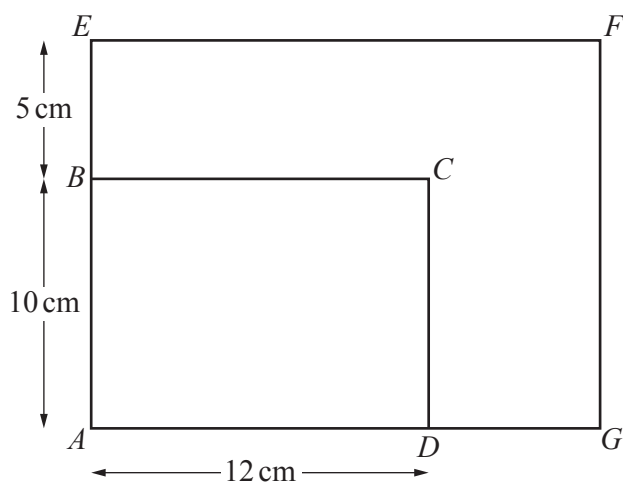
..... [2]

20 $f(x) = \frac{x-3}{2}$ for $-5 \leq x \leq 21$

Find the range of $f(x)$.

..... [2]

21



NOT TO
SCALE

Rectangles $ABCD$ and $AEFG$ are mathematically similar.

Work out EF .

$EF =$ cm [2]

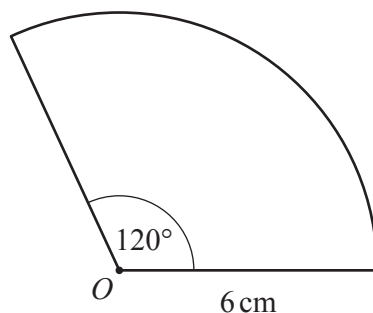
Questions 22 and 23 are printed on the next page.

- 22 A is the point $(-3, 1)$ and B is the point $(1, 3)$.

Find the gradient of the line AB .

..... [2]

23



NOT TO
SCALE

The diagram shows a sector of a circle centre O , radius 6 cm .

Find the area of the sector.

Leave your answer in terms of π .

..... cm^2 [2]

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