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111726621

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.

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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.

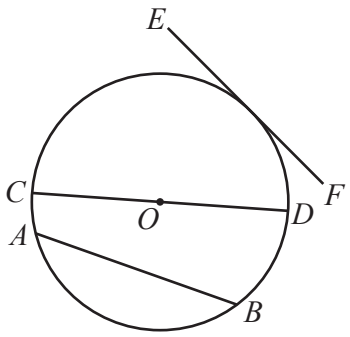
1 Write 25% as a fraction.

..... [1]

2 Write down two multiples of 12.

..... [1]

3



Complete the statement using letters from the diagram.

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

4 Change 1500 centilitres into litres.

..... litres [1]

5 Work out.

$10 - 4 \div 4$

..... [1]

6 21 22 23 24 25 26 27

From the list of numbers, write down

(a) the cube number,

..... [1]

(b) the triangle number.

..... [1]

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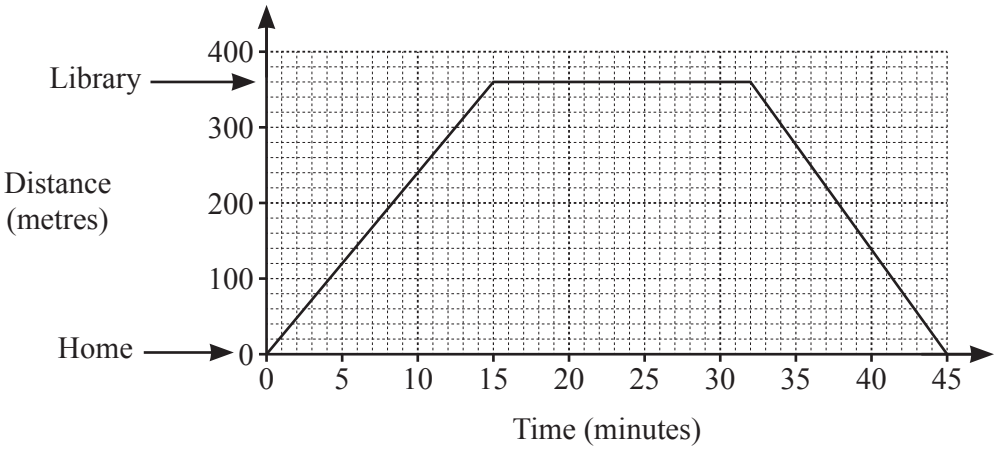
7



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]

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10 Work out 60% of 35.

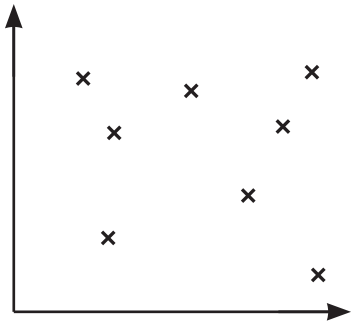
..... [2]

11 Simplify.

$w \times w \times w$

..... [1]

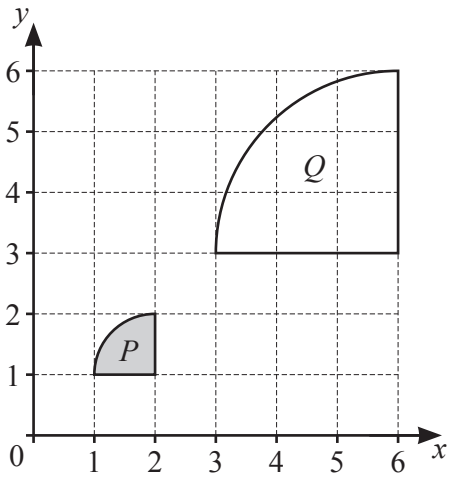
12



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]

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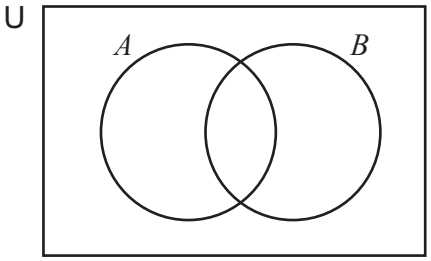
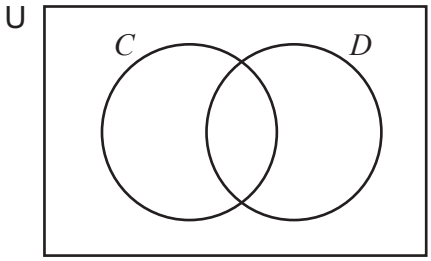
14 Shade the region indicated below each Venn diagram.



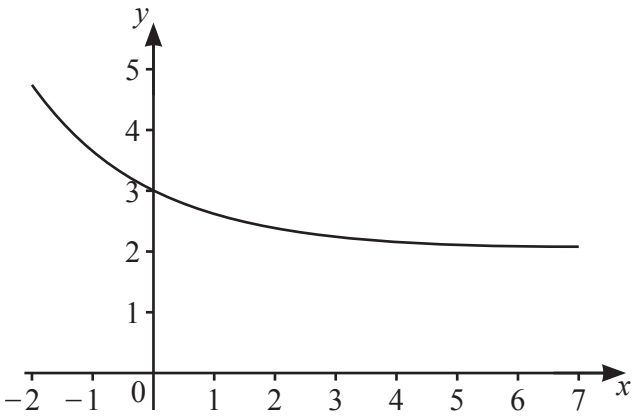
$A \cup B$



$C \cap D$

[2]

15



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

On the diagram, draw the asymptote. [1]

16 Solve the inequality $2x \leqslant 10$.

..... [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]

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19 Simplify.

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

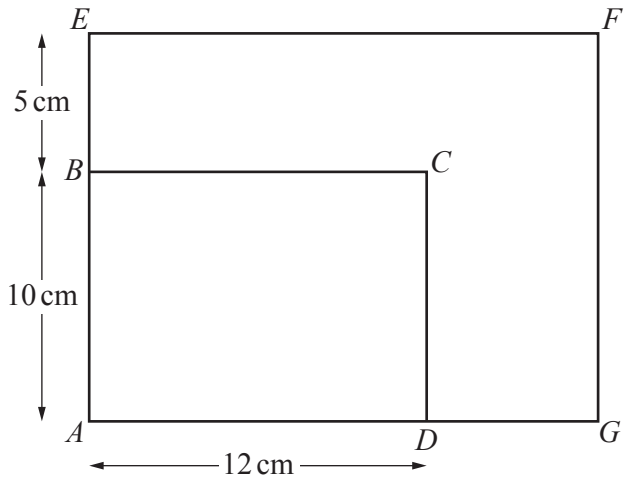
..... [2]

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

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.

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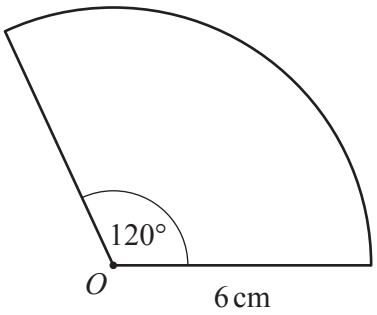
22 A is the point $(-3, 1)$ and B is the point $(1, 3)$.

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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