



CANDIDATE
NAME

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CENTRE
NUMBER

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CANDIDATE
NUMBER

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0607/13

May/June 2022

45 minutes

You must answer on the question paper.

You will need: Geometrical instruments

- 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.

- 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 . $V = \frac{1}{3}\pi r^2 h$

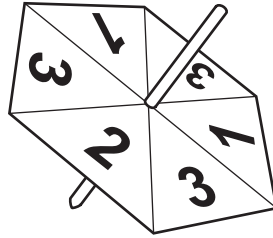
Volume, V , of sphere of radius r . $V = \frac{4}{3}\pi r^3$

Answer **all** the questions.

- 1 Write $\frac{1}{4}$ as a percentage.

..... % [1]

2



The diagram shows a fair 6-sided spinner which can land on the numbers 1, 2 or 3.

Write down the number on which the spinner is least likely to land.

..... [1]

- 3 Change 4 centilitres into millilitres.

..... ml [1]

- 4 Write 26 830 correct to the nearest hundred.

..... [1]

- 5 Canoe hire costs \$30 per day.
A canoe is hired for 7 days.

Work out the total cost.

\$ [1]

- 6 The table shows some data collected in a probability experiment.

Put a tick (✓) in each row to show whether the data is discrete or continuous.

Data	Discrete	Continuous
Score on die		
Number of rolls of die		
Time taken to roll die		

[1]

- 7 A is the point $(3, 2)$ and B is the point $(3, 8)$.

Work out the length of AB .

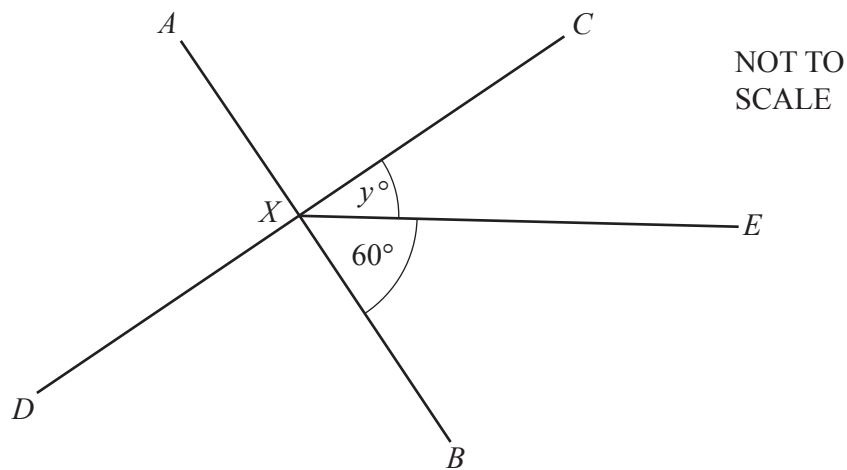
..... units [1]

- 8 Fill in the two missing terms of the sequence.

-4 , $\square$, 2 , 5 , 8 , $\square$, ...

[2]

9



Lines AB and CD are straight lines that intersect at right angles at X .

Find the value of y .

$y =$ [2]

- 10 Simplify.

$$3a + 4b + 2b - a$$

..... [2]

- 11** A cuboid has a volume of 300 cm^3 .
The length of the cuboid is 25 cm and the width is 4 cm.
Find its height.

..... cm [2]

- 12** Insert two pairs of brackets to make this statement correct.

$$3 + 2 \times 5 = 5 \times 4 + 6 \div 2 = 25$$

[2]

- 13** In a sale a shop reduces its prices by 10%.
Paula buys a coat which had an original price of \$50.
Work out how much Paula pays for the coat.

\$ [2]

- 14** Work out the size of one exterior angle of a 12-sided regular polygon.

..... [2]

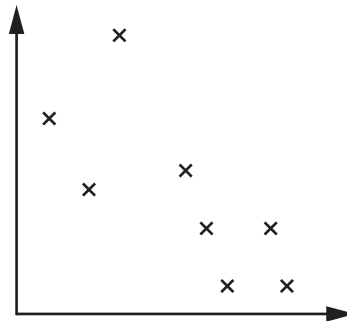
- 15 The table shows the number of spots on each of 30 ladybirds.

Number of spots	0	2	7	10	13
Frequency	5	2	11	9	3

Work out the mean number of spots.

..... [3]

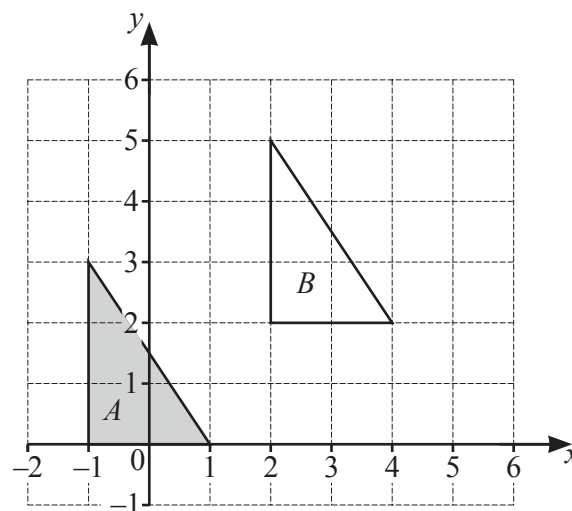
- 16



What type of correlation is shown on the scatter diagram?

..... [1]

- 17



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

.....

..... [2]

- 18 Find the highest common factor (HCF) of 15 and 65.

..... [1]

- 19 A machine produces rivets.
For every 50 rivets the machine produces, 1 rivet is defective.

- (a) A rivet is chosen at random.

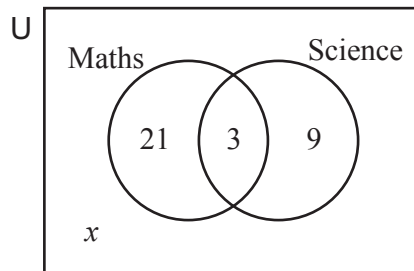
Find the probability that this rivet is defective.

..... [1]

- (b) In a batch of 10 000 rivets, find the expected number of defective rivets.

..... [2]

20



The number of students in a class studying maths and science are shown in the Venn diagram.

- (a) Write down how many students study both subjects.

..... [1]

- (b) Find how many students study only one of these subjects.

..... [1]

- (c) There are 50 students altogether.
 x students do not study either maths or science.

Find the value of x .

$x =$ [2]

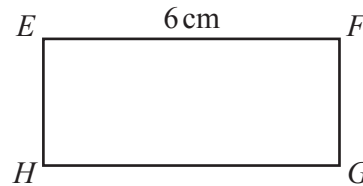
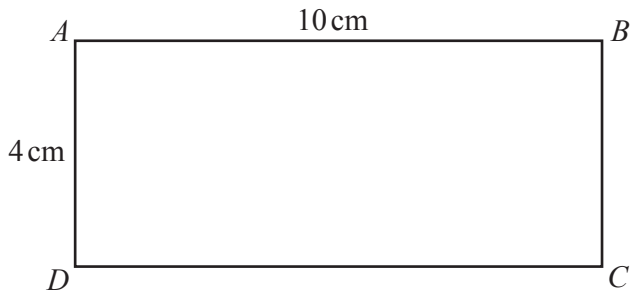
Questions 21, 22 and 23 are printed on the next page.

- 21 The width of a fibre is 0.000 019 m.

Write the width in standard form.

..... m [1]

22



NOT TO
SCALE

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

Work out EH .

$EH =$ cm [2]

- 23 Solve.

$$10x + 7 < 5$$

..... [2]

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