Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

9501503077

MATHEMATICS **0580/11**

Paper 1 (Core) **May/June 2022**

1 hour

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.
- You should use a calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π, use either your calculator value or 3.142.

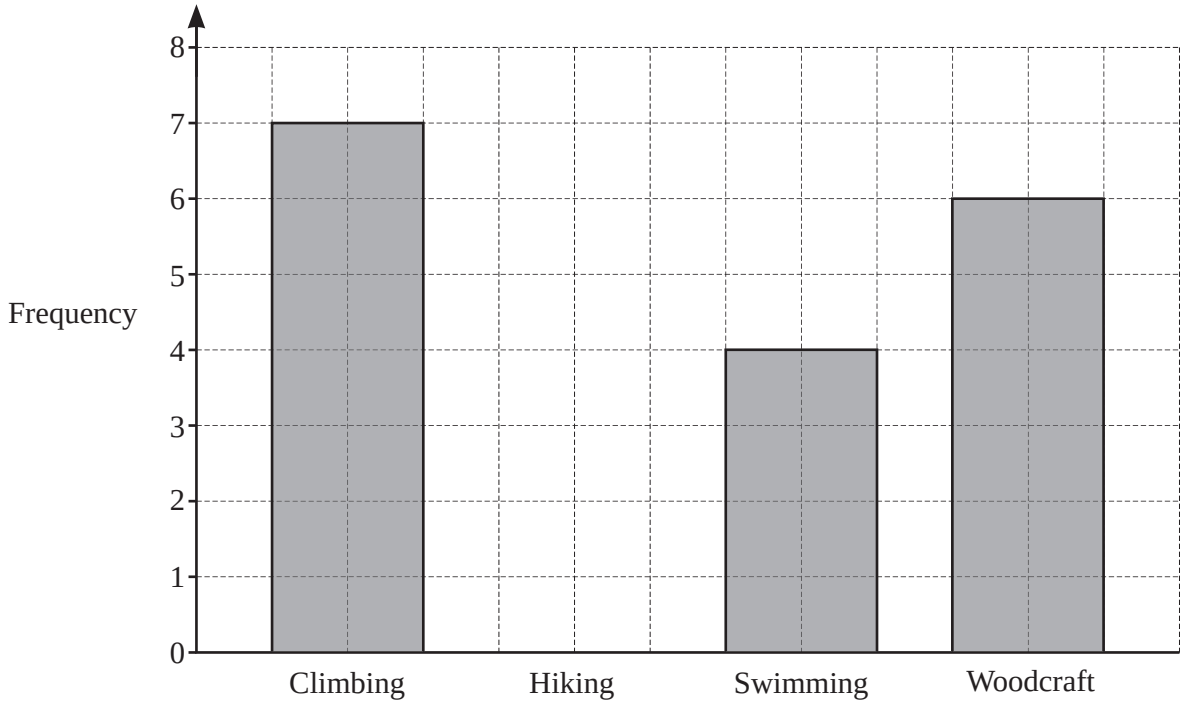
INFORMATION

- The total mark for this paper is 56.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages.

© UCLES 2022

1 Students at an activity centre choose one of four activities.
The bar chart shows some of their choices.



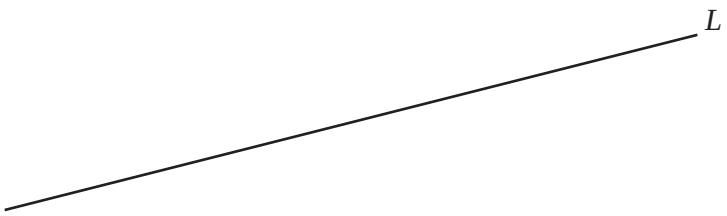
(a) 5 students choose hiking.

Complete the bar chart. [1]

(b) Write down the most popular activity.

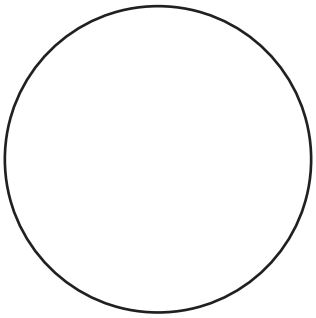
..... [1]

2



Draw a line that is perpendicular to line *L*. [1]

3 **(a)**



The diagram shows a circle.

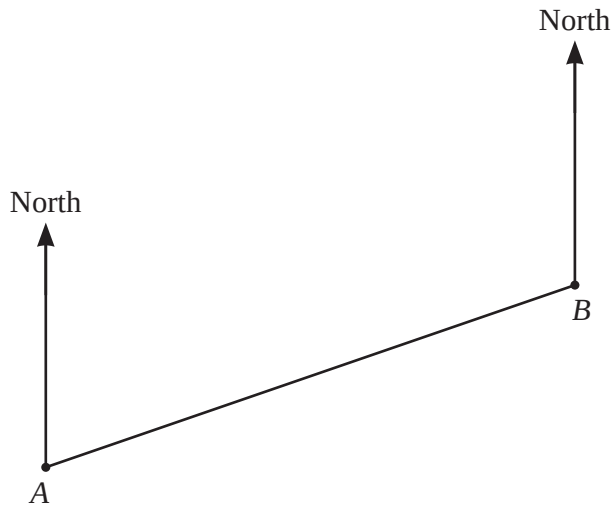
On the diagram, draw a chord. [1]

(b) Another circle has a diameter of 28 cm.

Find the radius of this circle.

..... cm [1]

4 The scale drawing shows the positions of town *A* and town *B*.
The scale is 1 cm represents 15 km.



Scale: 1 cm to 15 km

(a) Find the actual distance between town *A* and town *B*.

..... km [2]

(b) Measure the bearing of town *B* from town *A*.

..... [1]

5 Change 0.56 kilometres into metres.

..... m [1]

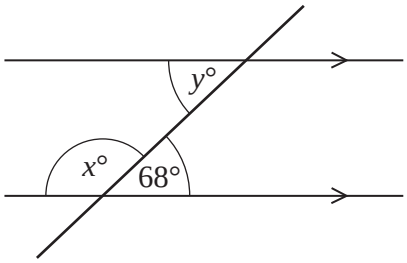
6 Write these numbers in order, starting with the smallest.

$\frac{6}{17}$ 34% $\frac{9}{25}$ 0.345

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

smallest

7



NOT TO SCALE

The diagram shows two parallel lines and a straight line crossing them.

Find the value of x and the value of y.

$x =$ .....

$y =$ ..... [2]

8 Here is some information about six numbers:

- The lowest number is 37.
- The range is 24.
- The mode is 43.
- The median is 46.
- One number is a multiple of 11.

Find the other five numbers.

37, ..., ..., ..., ..., ... [4]

9 Calculate $4^5 - 5^4$.

..... [1]

10 Jason starts a run at 10.05 am and finishes at 1.02 pm.

Work out the time Jason takes to complete the run.

..... h ..... min [1]

11 Calculate $\frac{1-0.7}{0.45-0.38}$, giving your answer correct to 4 significant figures.

..... [2]

12 Kirsty changes \$380.80 into pounds (£) when £1 = \$1.19.

Calculate the amount Kirsty receives.

£ ..... [2]

13 A 4-sided spinner is numbered 1, 2, 3 and 4.
The table shows the probability of the spinner landing on 1, 2 and 4.

Number	1	2	3	4
Probability	0.27	0.18		0.32

Complete the table.

[2]

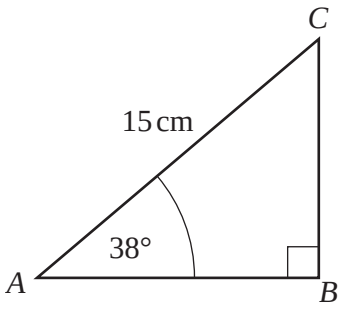
14 **Without using a calculator**, work out $\frac{3}{7}-\frac{2}{21}$.

You must show all your working and give your answer as a fraction in its simplest form.

..... [2]

© UCLES 2022

15



NOT TO SCALE

The diagram shows a right-angled triangle, ABC.
$AC = 15\,\text{cm}$ and angle $BAC = 38°$.

Calculate BC.

$BC =$ ..... cm [2]

16 $v = 3 - 5t$

(a) Work out the value of v when $t = 4$.

$v =$ ..... [1]

(b) Make t the subject of the formula.

$t =$ ..... [2]

17 Kim has a 6-sided spinner numbered 1 to 6.
She spins it 63 times and her scores are shown in the table.

Score on spinner	1	2	3	4	5	6
Frequency	12	7	15	11	8	10

(a) Find the relative frequency of scoring a 5 with this spinner.

..... [1]

(b) Work out the mean score.

..... [3]

18 Factorise completely.

$14xy - 7y^2$

..... [2]

19 Lin invests \$16 000 at a rate of r% per year simple interest.
At the end of 5 years, she has a total amount of \$17 920.

Find the value of r.

$r =$ ..... [3]

20 22, 17, 12, 7, 2, …

(a) Find the next term of the sequence.

..... [1]

(b) Find the nth term of the sequence.

..... [2]

21 Write down an irrational number with a value between 10 and 20.

..... [1]

© UCLES 2022

[Turn over

22 The table shows the population and area of three countries in 2020.

Country	Population	Area (km^2)
Nigeria	2.06×10^8	9.11×10^5
Comoros	8.70×10^5	1.86×10^3
Vietnam	9.73×10^7	3.10×10^5

(a) Calculate the difference in population between Nigeria and Vietnam.

..... [1]

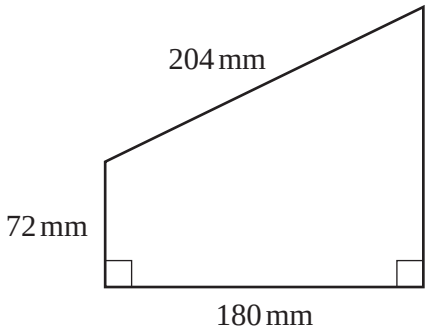
(b) Which of Comoros or Vietnam has the greater population density?
You must show all your working.

$$\left[\text{Population density} = \frac{\text{population}}{\text{area}\,(\text{km}^2)}\right]$$

..... [3]

© UCLES 2022

23



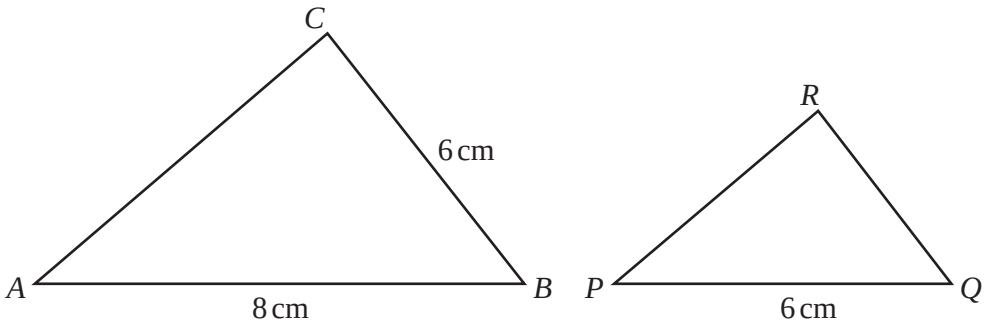
NOT TO SCALE

Work out the area of this trapezium.

..... mm^2 [5]

Question 24 is printed on the next page.

24



NOT TO SCALE

Triangle *ABC* is mathematically similar to triangle *PQR*.

Calculate *QR*.

QR = ... cm [2]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.

© UCLES 2022