



Cambridge IGCSE™

CANDIDATE
NAME

--

CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--



CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/13

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

Answer **all** the questions.

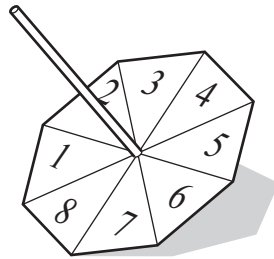
1 Write $\frac{4}{10}$ as a decimal.

..... [1]

2 Complete the statement.

Two straight lines which meet at 90° are called lines. [1]

3



Xander spins this unbiased 8-sided spinner.

Find the probability that the spinner lands on an even number.
Give your answer as a decimal.

..... [2]

4

$$\text{Total mass of hay} = \text{mass of one bale} \times \text{number of bales}$$

Work out the total mass of hay when there are 10 bales and the mass of each bale is 21 kg.

..... kg [1]

5 10 11 12 14 15 16

From the list of numbers, write down

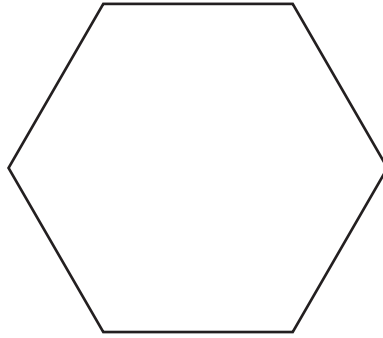
(a) the square number,

..... [1]

(b) the prime number.

..... [1]

6



On the diagram, draw all the lines of symmetry. [2]

7 Find 75% of 200.

..... [1]

8 Change $3\frac{1}{4}$ hours into minutes.

..... minutes [1]

9 Insert one pair of brackets to make this statement correct.

$$10 \div 2 + 2 + 1 = 2$$

[1]

10 The coordinates of two points are (1, 5) and (5, 5).

Work out the distance between the two points.

..... [1]

11 Rosa wants to collect information about cars.

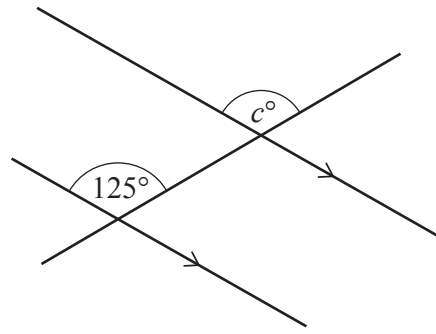
(a) Write down an example of discrete data that she could collect.

..... [1]

(b) Write down an example of continuous data that she could collect.

..... [1]

12

NOT TO
SCALE

Find the value of c .
Give a reason for your answer.

$c = \dots\dots\dots$ because $\dots\dots\dots$ [2]

13 Write down the largest integer value of x so that $x < -24$.

$\dots\dots\dots$ [1]

14 Find the total surface area of a cube of side 2 cm.

$\dots\dots\dots \text{ cm}^2$ [2]

15 A shark swims 200 metres in 40 seconds.

Find its average speed.

$\dots\dots\dots \text{ m/s}$ [1]

16 Factorise.

$$15a - 3b + 9c$$

$\dots\dots\dots$ [1]

- 17 Megan asked some people if they prefer to read emails on their phone or on their laptop. The results are shown in the table.

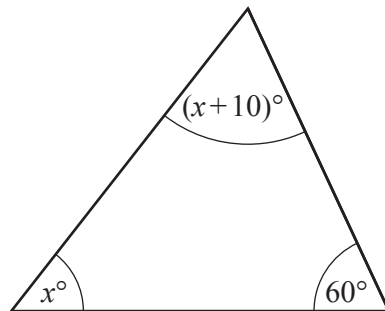
	Phone	Laptop
$10 < \text{age} \leq 30$	9	1
$30 < \text{age} \leq 50$	6	4
$50 < \text{age} \leq 70$	3	7

One of these people is chosen at random.

Find the probability that they prefer to read emails on their phone.

..... [2]

18



NOT TO
SCALE

Find the value of x .

$x =$ [3]

- 19 Solve the inequality.

$$x + 1 < 3$$

..... [1]

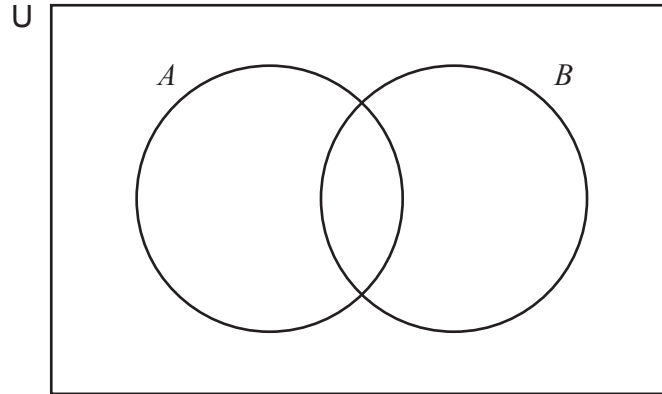
- 20 A bag contains 20 almonds.
The mean mass of an almond in the bag is 4 grams.

Work out the total mass of the almonds in the bag.

..... grams [1]

- 21 $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
 $A = \{1, 4, 5, 6, 9\}$
 $B = \{2, 4, 7, 10\}$

(a) Complete the Venn diagram by writing each element in the correct region.



[2]

(b) Find $A \cap B$.

$$A \cap B = \{ \dots\dots\dots \} \quad [1]$$

(c) Find $n(A \cup B)$.

..... [1]

22 (a) Write each number in standard form.

(i) 8500

..... [1]

(ii) 0.02

..... [1]

(b) Find the value of 8500×0.02 .
Write your answer in standard form.

..... [2]

Questions 23 and 24 are printed on the next page.

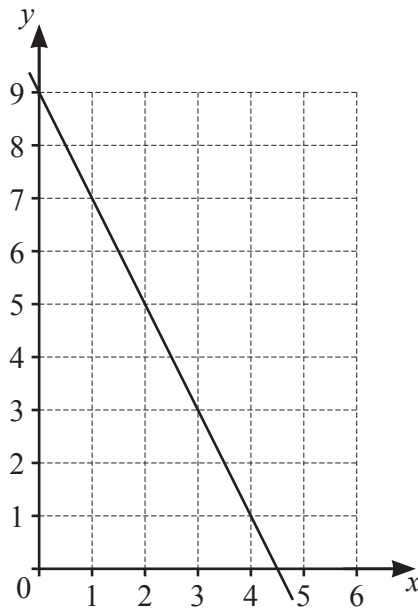
23 $f(x) = x - 3$

The domain of $f(x)$ is $1 \leq x \leq 9$.

Find the range of $f(x)$.

..... [2]

24



Explain why the gradient of this line is -2 .

.....

..... [1]

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 the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.