Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

6805643091

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.

DC (LK/CB) 207181/2

[Turn over

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.

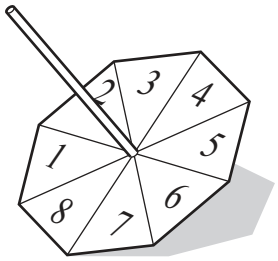
1 Write $\frac{4}{10}$ as a decimal.

..... [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

Total mass of hay = mass of one bale × 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

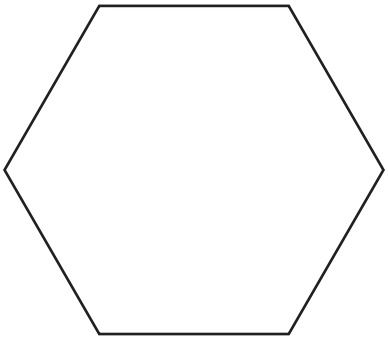
(a) the square number,

..... [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.

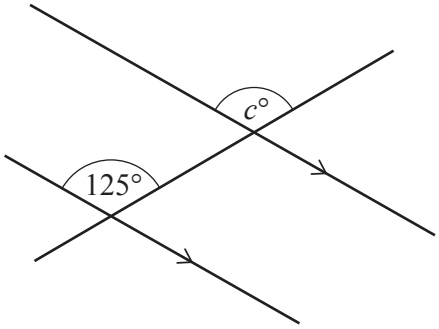
(a) Write down an example of discrete data that she could collect.

..... [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.

$c =$ ..... because ..... [2]

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

..... [1]

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

..... cm^2 [2]

15 A shark swims 200 metres in 40 seconds.

Find its average speed.

..... m/s [1]

16 Factorise.

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

..... [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.

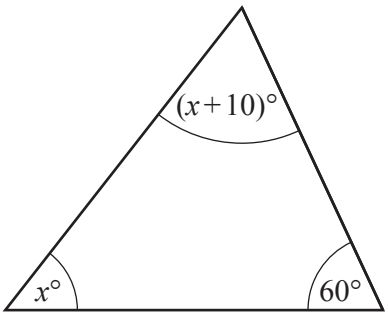
	Phone	Laptop
$10 < \text{age} \leqslant 30$	9	1
$30 < \text{age} \leqslant 50$	6	4
$50 < \text{age} \leqslant 70$	3	7

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]

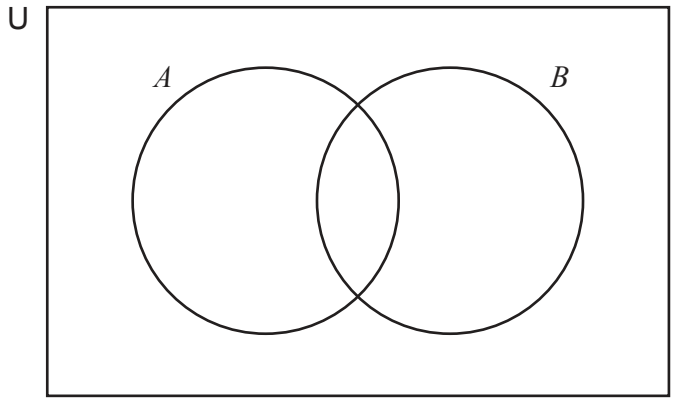
20 A bag contains 20 almonds.
The mean mass of an almond in the bag is 4 grams.

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

..... grams [1]

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

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



[2]

(b) Find $A \cap B$.

$A \cap B = \{$ ..... $\}$ [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.

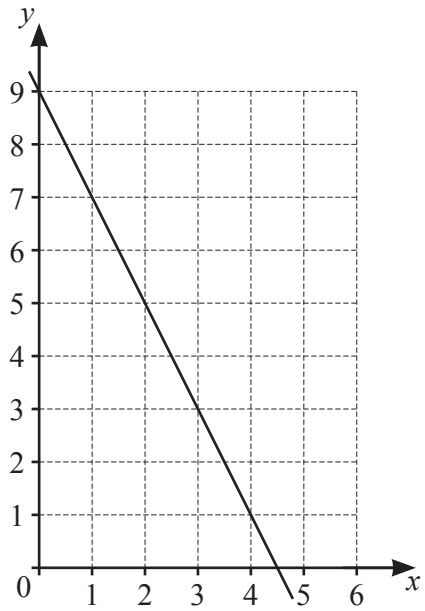
23 $f(x) = x - 3$

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

Find the range of $f(x)$.

..... [2]

24



Explain why the gradient of this line is -2.

.....

..... [1]