

Cambridge IGCSE[™]

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

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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.

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[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.

 $A = \pi r l$

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.

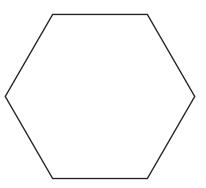
	Answer an the questions.	
1	Write $\frac{4}{10}$ as a decimal.	
		[1]
2	Complete the statement.	
	Two straight lines which meet at 90° are called lines.	[1]
3	8 2 6	
	Xander spins this unbiased 8-sided spinner. Find the probability that the spinner lands on an even number. Give your answer as a decimal.	[2]
4	Total mass of hay = mass of one bale \times 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	
	From the list of numbers, write down (a) the square number,	
	(,	

.....[1]

.....[1]

(b) the prime number.

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.

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

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]

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12

C° /	NOT TO SCALE
125°	
	•

Find	the	value of c.	
		_	

Give a reason for your answer.

			_
0-	hecause	12	41
ι –	· ····· Decause	 14	٠L

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

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

$$....$$
 cm² [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.

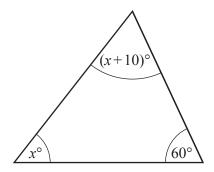
	Phone	Laptop
$10 < age \le 30$	9	1
$30 < age \le 50$	6	4
50 < age ≤ 70	3	7

One of these people is chosen at random.

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

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18



NOT TO SCALE

Find the value of *x*.

$$x =$$
 [3]

19 Solve the inequality.

$$x + 1 < 3$$

20 A bag contains 20 almonds.

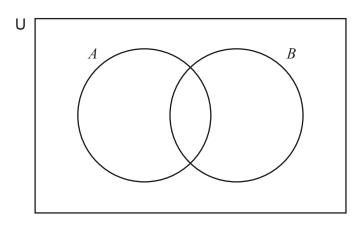
The mean mass of an almond in the bag is 4 grams.

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

..... grams [1]

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- 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 $A \cap B$.

$A \cap R -$	1	(Г1	1
$A \cap D = \emptyset$		•	1 1	ı

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

Γ1	1
 LT.	J

22 (a) Write each number in standard form.

(i) 8500

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	1	. 1	

(ii) 0.02

		- F17

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

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•	•	•	•	•	•	•				 	 		•	•	•	•	•	•		 	•	•	•	•	•	•	•	•	•	•	•					•	•	•		L	4	_	·_	

Questions 23 and 24 are printed on the next page.

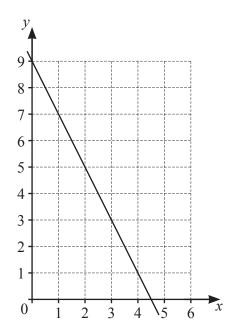
23
$$f(x) = x - 3$$

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

Find the range of f(x).

.....[2]

24



Explain why the gradient of this line is -2.

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