

Cambridge IGCSE[™]

CANDIDATE NAME					
CENTRE NUMBER			CANDIDATE NUMBER		

7100987334

CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/12

Paper 1 (Core) October/November 2022

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.

 $A = \pi r l$

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.

1	Write the number twenty thousand eight hundred	in figures.		
2	Write down all the factors of 39.			[1]
3	Change $3\frac{1}{2}$ years into months.			[2]
4	A spool contains 100 m of thread. Work out the total length of thread on 70 spools. Give your enswer in kilometres		months	[1]
	Give your answer in kilometres.			
			km	[2]
5	Dewi walks due East from his home. Complete the statement.			
	Dewi walks	on a bearing of		[1]
6	Write 368.276 correct to the nearest ten.			
				ſ1 1

7 The table shows the time taken to soak and then sprout different seeds.

	Soak	Sprout		
Mustard	6 hours	5 days		
Radish	5 hours	4 days		

Work out how much longer it takes to soak and sprout mustard seeds than to soak and sprout radish seeds.

Give your answer in hours.

Ilouis [2	hours	[2]
-----------	-------	-----

8 Work out.

$$6 - 18 \div 2$$

.....[1]

9

$$\frac{1}{4}$$
 20% 0.24 0.3

Write these numbers in order of size, starting with the smallest.

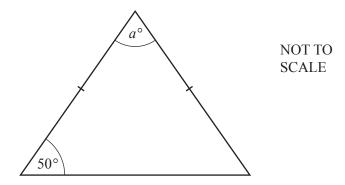
10 Four pens cost \$1.

Work out the cost of five pens.

\$ [2]

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11



Work out the value of *a*.

α	_		[2]
и	_	•••••	

12 (a) Show the inequality $n \le -2$ on this number line.

-	-	- _T -	-	-	-	

(b) Write down the largest integer value, n, for which $n \le -2$.

Г	1	٦	ı
	1		ı

13 Factorise fully.

$$6x^3 - 8x$$



14 There are two prime numbers between 60 and 70.

Complete this statement about these prime numbers.

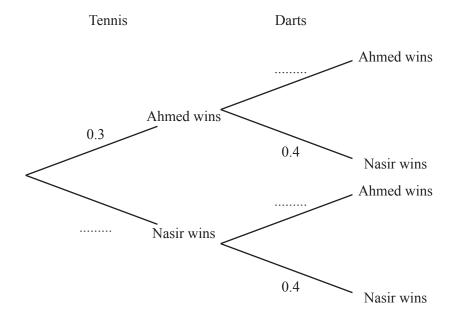
15
$$g(x) = \sqrt[3]{3x}$$

Work out g(9).

	[1]
--	-----

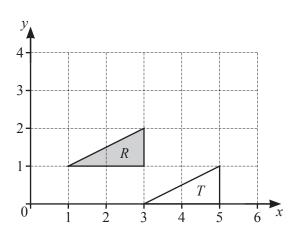
Ahmed and Nasir play a game of tennis followed by a game of darts. The probability of Ahmed winning the game of tennis is 0.3. The probability of Nasir winning the game of darts is 0.4.

Complete the tree diagram.



[1]

17



Describe fully the **single** transformation that maps triangle *R* onto triangle *T*.

.....[2]

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18 Benji walks 20 km in 4 hours.

Wynn's average speed is 1 km/h faster than Benji's average speed.

Work out the distance Wynn walks in 3 hours.

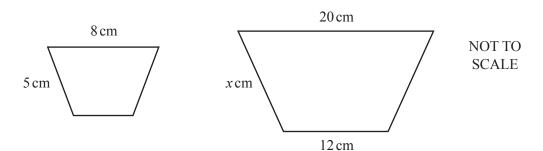
	km	[3]
--	----	-----

19 Simplify fully.

$$5(x^2-3)-2(x^2+5)$$

.....[2]

20



These two shapes are mathematically similar.

Find the value of x.

$$x = \dots [2]$$

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

21 Find the value of x when $\frac{8^9}{8^3} = 8^x$.

$$x = \dots$$
 [1]

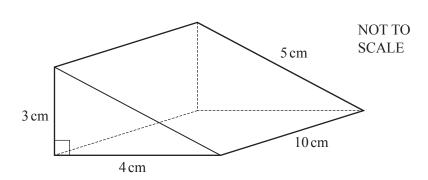
A bag contains 5 black counters and 6 white counters.

Manjit takes one counter out of the bag at random, notes its colour and replaces it. She does this a second time.

Find the probability that both the counters are black.

.....[2]

23



The diagram shows a triangular prism.

Calculate its total surface area.

..... cm² [3]

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