Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

3690819943

MATHEMATICS **0580/13**

Paper 1 (Core) **October/November 2021**

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. Any blank pages are indicated.

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1 Write

(a) $\frac{1}{2}$ as a percentage,

..... % [1]

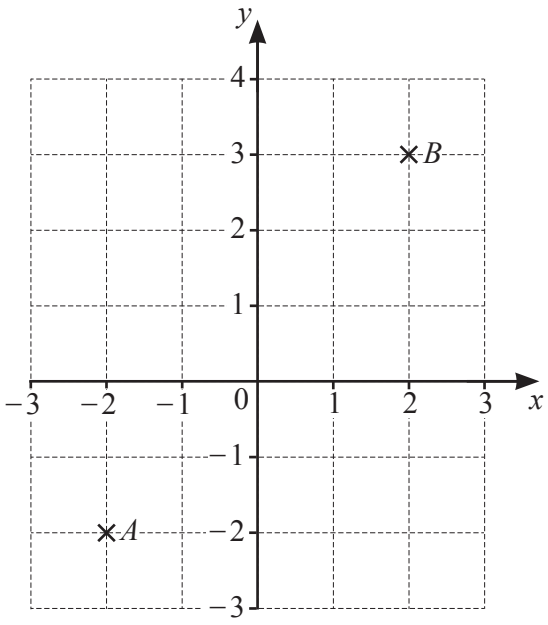
(b) 0.7 as a fraction,

..... [1]

(c) $\frac{11}{20}$ as a decimal.

..... [1]

2 Points A and B are plotted on the grid.



(a) Write down the coordinates of point B.

(..... , ...) [1]

(b) Write $\overrightarrow{AB}$ as a vector.

$\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [1]

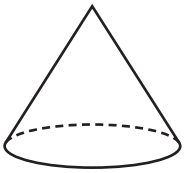
(c) On the grid, plot point C at $(-2, 3)$. [1]

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3 Find the number of minutes in $4\frac{1}{2}$ hours.

..... min [1]

4

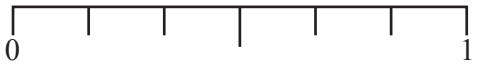


Write down the mathematical name of this solid.

..... [1]

5 Cheng spins a fair 6-sided spinner numbered 1 to 6.

On the probability scale, draw an arrow (↓) to show the probability that the spinner lands on 4.



[1]

6

62 43 16 21 73 16 33 16 35

For this list of numbers find

(a) the mode,

..... [1]

(b) the median.

..... [2]

7 $r = 2t + 3u$

Work out the value of t when $r = 18$ and $u = 4$.

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

8 The temperature at midnight was $-8\,°C$.
The temperature at noon is $6\,°C$.

(a) Work out the difference between these two temperatures.

..... °C [1]

(b) The temperature at 7 am is $5\,°C$ higher than the temperature at midnight.

Work out the temperature at 7 am.

..... °C [1]

9 The probability that it rains tomorrow is 0.47 .

Find the probability that it does not rain tomorrow.

..... [1]

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10 Write 26 g as a percentage of 208 g.

..... % [1]

11

11 13 15 17 19

From this list, write down the number that is both a prime number and a factor of 195.

..... [1]

12 **(a)** = ≠ > <

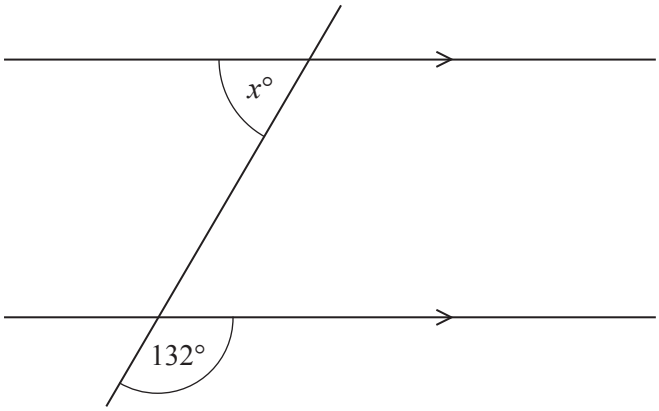
Put a ring around each of the symbols that make this statement correct.

0.5 ..... 5% [1]

(b) Insert one pair of brackets to make this statement correct.

$7 - 3 - 1 + 2 = 7$ [1]

13



NOT TO SCALE

The diagram shows two parallel lines intersecting a straight line.

Find the value of x.

$x =$ ..... [2]

14 **(a)** These are the first four terms of a sequence.

17 23 29 35

Find the next term.

..... [1]

(b) These are the first four terms of a different sequence.

3 −1 −5 −9

(i) Find the next term in this sequence.

..... [1]

(ii) Find the nth term.

..... [2]

15 Sara takes 5 tests.
Her mean score is 62.
She takes another test and her mean score is now 68.

Work out her score in the sixth test.

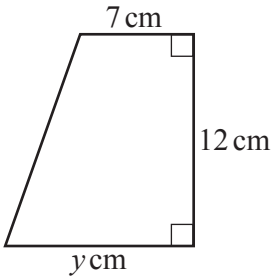
..... [3]

16 Nina changes 153 euros into dollars when the exchange rate is \$1 = 0.9 euros.

Calculate the amount Nina receives.

\$ ..... [1]

17



NOT TO SCALE

The area of this trapezium is 96 cm^2.

Find the value of y.

$y =$ ..... [3]

18 Marek buys a computer for $420.
He sells it at a loss of 15%.

Calculate the selling price of this computer.

$ ..... [2]

19 Calculate the radius of a circle with circumference 26 cm.

..... cm [2]

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20 By writing each number in the calculation correct to 1 significant figure, find an estimate for the value of

$$\frac{4.3 \times 30.7}{6.6 - 1.8}.$$

..... [2]

21 Find the interior angle of a regular 7-sided polygon.

..... [2]

22 **Without using a calculator**, work out $\frac{11}{12} + \frac{3}{4}$.

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

..... [3]

23 **(a)** Simplify.

$$32g^{32} \div 4g^4$$

..... [2]

(b) Factorise completely.

$$10j - 15j^2$$

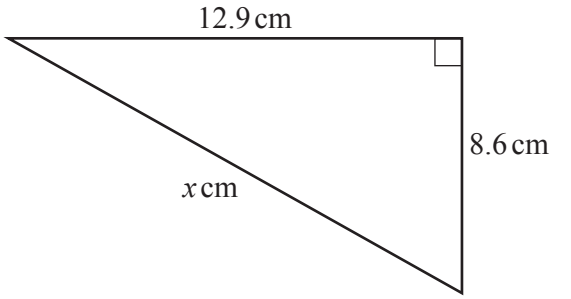
..... [2]

(c) Expand the brackets and simplify.

$$(x + 7)(x + 3)$$

..... [2]

24 (a)

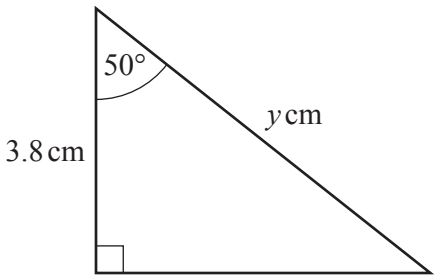


NOT TO SCALE

Calculate the value of x.

$x =$ ..... [2]

(b)



NOT TO SCALE

Show that the value of y is 5.9, correct to 2 significant figures.

[3]

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