Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

7099715164

MATHEMATICS **0580/12**

Paper 1 (Core) **October/November 2023**

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 $\frac{8}{10}$ as a decimal.

..... [1]

2 Asha works in a café.
Her wage is calculated using the formula wage = hourly rate × number of hours + bonus.
Her hourly rate is $11.52 .
One week Asha works 25 hours and receives a bonus of $5.40 .

Work out her wage for this week.

$ ..... [2]

3 These are the first four terms in a sequence.

−3 4 11 18

(a) Find the next term.

..... [1]

(b) Explain how you worked out your answer.

..... [1]

4 Work out $\frac{2}{5}$ of 180.

..... [1]

5 Write these numbers in order, starting with the smallest.

$\frac{3}{16}$ 18.7% 0.19 $\frac{9}{50}$

..... < ..... < ..... < ..... [2]
smallest

6 Write down the number that is 9 greater than -23.

..... [1]

7 For 16 days, Safia records the number of dresses she sells.

24	6	18	14	27	37	9	16
22	17	16	16	24	20	15	32

(a) Complete the stem-and-leaf diagram.

0	
1	
2	
3	

Key: 2 | 4 represents 24 dresses

[2]

(b) Write down the mode.

..... [1]

(c) Find the median.

..... [1]

8 Write 24.07839

(a) correct to 2 decimal places

..... [1]

(b) correct to the nearest 10.

..... [1]

9 $v = u + at$

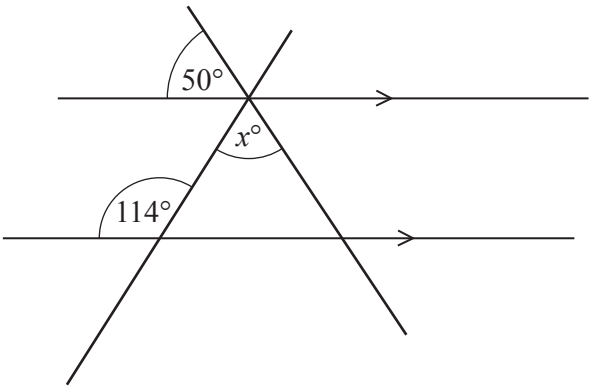
Find the value of v when $u = 30$, $a = -2$ and $t = 7$.

$v =$ ..... [2]

10 Change 62 000 millimetres into kilometres.

..... km [1]

11



NOT TO SCALE

The diagram shows two straight lines crossing two parallel lines.

Find the value of x.

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

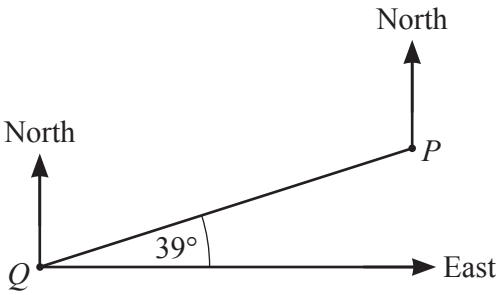
12 **(a)** Explain why 111 is not a prime number.

..... [1]

(b) Find a prime number between 110 and 120.

..... [1]

13



NOT TO SCALE

Find the bearing of Q from P.

..... [2]

14 **(a)** As the age of a car increases, the selling price decreases.

What type of correlation is this?

..... [1]

(b) Write down the type of correlation there is between the height of a driver and the value of their car.

..... [1]

15 Calculate the interior angle of a regular 9-sided polygon.

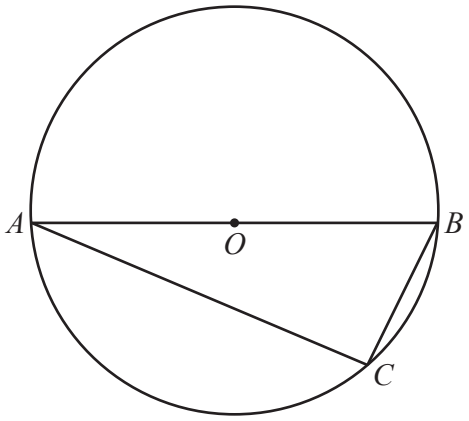
..... [2]

16 Filip invests \$4000 for 3 years at a rate of 2.5% per year simple interest.

Calculate the value of his investment at the end of the 3 years.

\$ ..... [3]

17



NOT TO SCALE

A, *B* and *C* are points on a circle, centre *O*.

(a) Draw a tangent to the circle at point *A*. [1]

(b) The circumference of the circle is 22.3 cm.

Calculate the radius of the circle.

..... cm [2]

(c) Give a geometrical reason why angle *BCA* is 90°.

..... [1]

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18 Expand and simplify.

$$2(t+w)+3(w-t)$$

..... [2]

19 **Without using a calculator**, work out $3\frac{1}{8}-1\frac{3}{4}$.

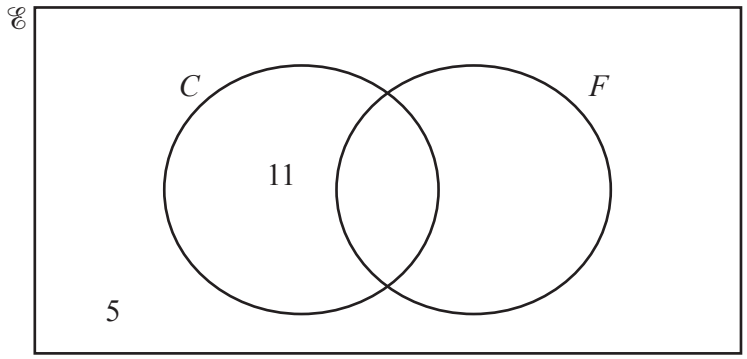
You must show all your working and give your answer as a mixed number in its simplest form.

..... [3]

20 $\mathscr{E}$ = {students in a class}
C = {students who play cricket}
F = {students who play football}

There are 36 students in the class.
15 students play cricket.
20 students play football.

(a)

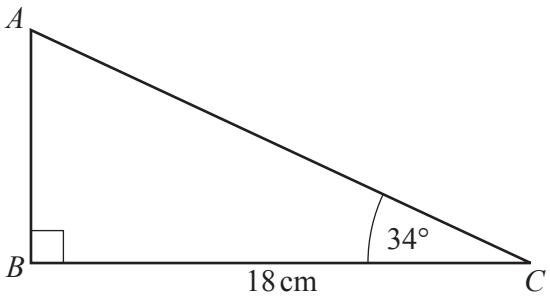


Complete the Venn diagram. [2]

(b) Write down $n(C \cup F)$.

..... [1]

21 ABC is a right-angled triangle.

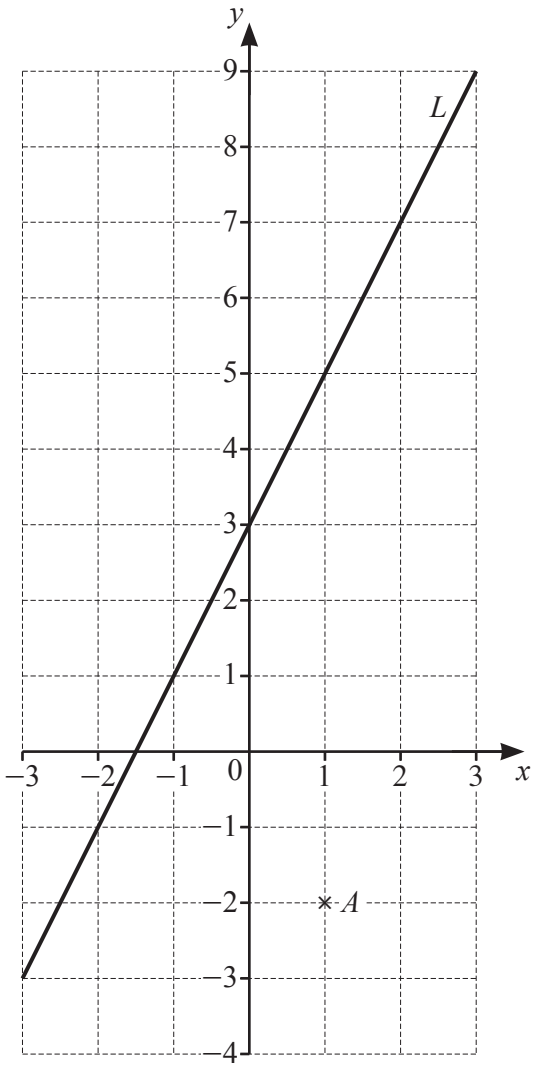


NOT TO SCALE

Calculate AC.

AC = ... cm [3]

22 Point A and line L are shown on the grid.



(a) Write down the coordinates of point A.

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

(b) On the grid, plot the point $(-2, 4)$. [1]

(c) Find the equation of line L.

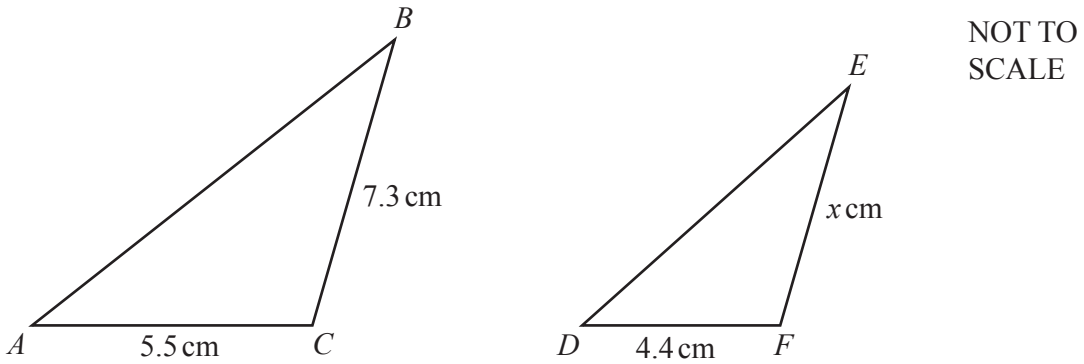
..... [3]

23 Bell *A* rings every 22 minutes.
Bell *B* rings every 14 minutes.
Both bells ring at 09 00.

Work out the next time both bells ring together.

..... [3]

24



Triangle *ABC* is mathematically similar to triangle *DEF*.

Calculate the value of *x*.

x = ... [2]

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