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Cambridge Assessment International Education

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CANDIDATE NAME

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6159251866

MATHEMATICS **0580/11**

Paper 1 (Core) **October/November 2022**

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.

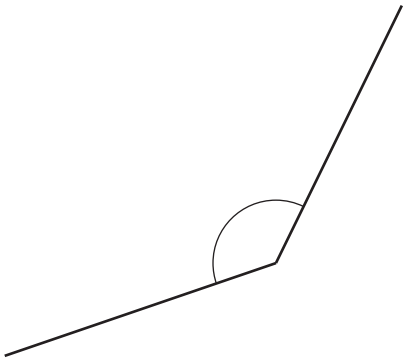
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1 Write the number two million eight hundred and forty thousand three hundred and twenty-seven in figures.

..... [1]

2



Write down the mathematical name of this type of angle.

..... [1]

3

(a) Measure the length of this line in millimetres.

..... mm [1]

(b) Draw a line perpendicular to this line. [1]

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4 In triangle PQR, $PR = 5$ cm and $QR = 4$ cm.

Using a ruler and compasses only, construct triangle PQR.
Leave in your construction arcs.
The side PQ has been drawn for you.

P ——————————— Q

[2]

5 Write down a common multiple of 18 and 24.

..... [1]

6 Write 32 cm as a fraction of 2 m.
Give your answer in its simplest form.

..... [2]

7 The temperature, in °C, is recorded at the same time in six cities.

London	Helsinki	Oslo	Paris	Madrid	Berlin
6	–2	–5	7	9	2

(a) Which city has the coldest temperature?

..... [1]

(b) What is the difference in temperature between Helsinki and Paris?

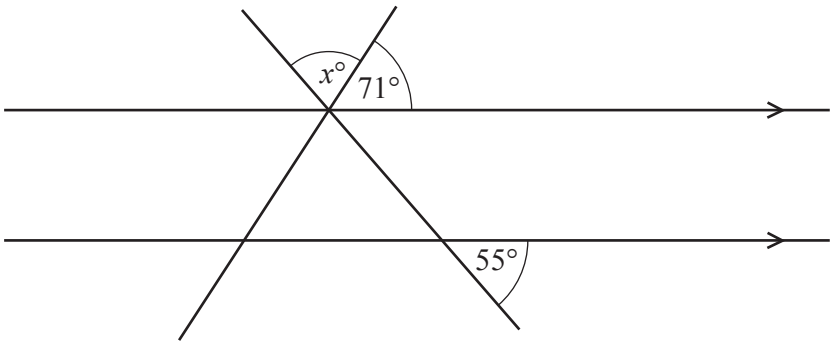
..... °C [1]

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8



NOT TO SCALE

The diagram shows two straight lines intersecting two parallel lines.

Find the value of x.

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

9 Divide \$200 in the ratio 7 : 3.

\$ ..... , \$ ..... [2]

10 The birth weights, in kg, of 11 babies are recorded.

2.1 1.6 2.7 4.2 4.0 2.2 3.1 1.7 2.6 3.3 3.7

(a) Complete the stem-and-leaf diagram to show this information.

1	
2	
3	
4	

Key: 2 | 1 represents 2.1 kg

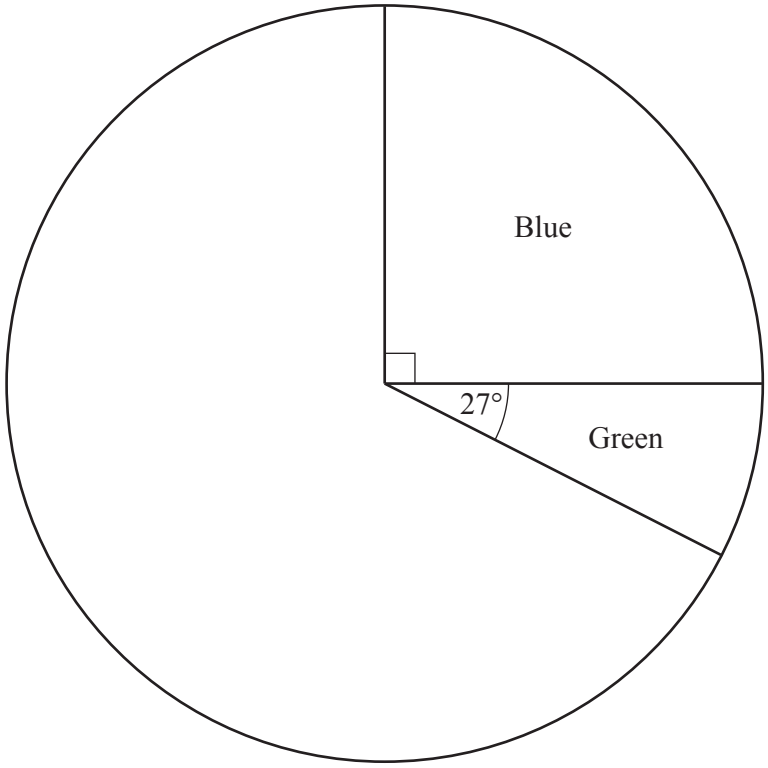
[2]

(b) Find the median.

..... kg [1]

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11 Victoria records the colour of each of 240 cars leaving a car park.
Some of this information is shown in the pie chart.



(a) Show that 60 cars are blue.

[1]

(b) The rest of the cars are either red or white.
110 cars are red.

Complete the pie chart to show this information.

[2]

12 The price of a computer is \$520.
This price is reduced by 15% in a sale.

Work out the sale price.

\$ ..... [2]

13 **Without using a calculator**, work out $\frac{1}{3}+\frac{5}{6}$.

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

..... [2]

14 Mario tests new cars.
The probability that a car is faulty is 0.04 .

(a) Find the probability that a car is not faulty.

..... [1]

(b) In one week Mario tests 850 cars.

Find the number of cars that are expected to be faulty.

..... [2]

15 A café sells 330 sandwiches.
This is $\frac{11}{14}$ of the sandwiches they make.

Work out the number of sandwiches the café makes.

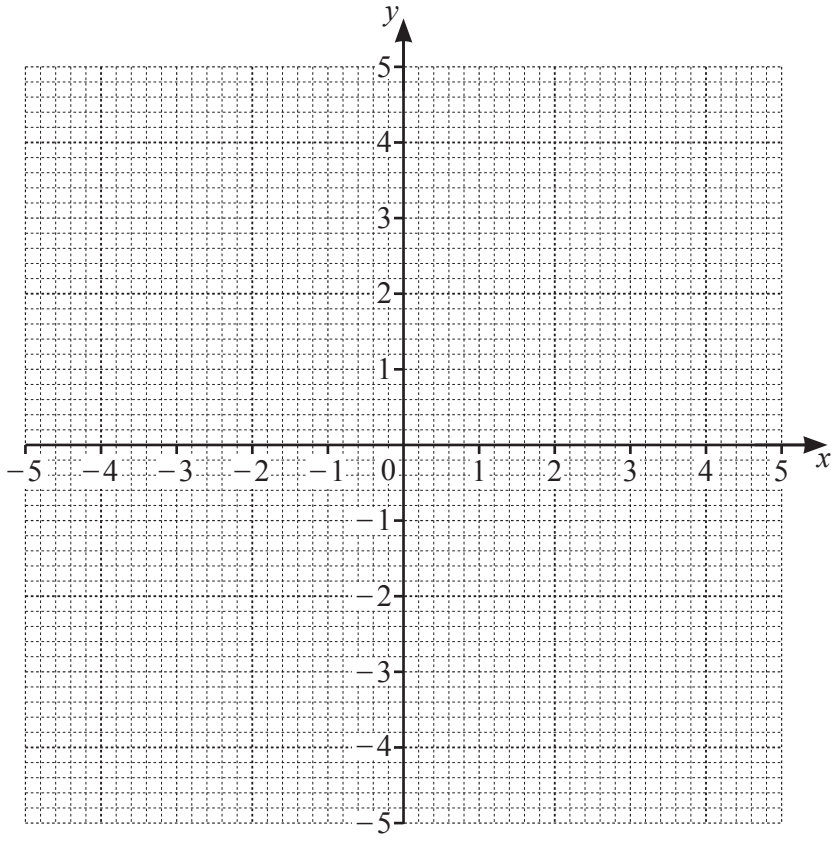
..... [2]

16 **(a)** Complete the table of values for $y = \frac{5}{x}$.

x	–5	–4	–2.5	–2	–1		1	2	2.5	4	5
y	–1		–2	–2.5	–5		5	2.5	2		1

[2]

(b) On the grid, draw the graph of $y = \frac{5}{x}$ for $-5 \leqslant x \leqslant -1$ and $1 \leqslant x \leqslant 5$.



[4]

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17 **(a)** 3, 9, 27, 81, …

Write down the term to term rule for this sequence.

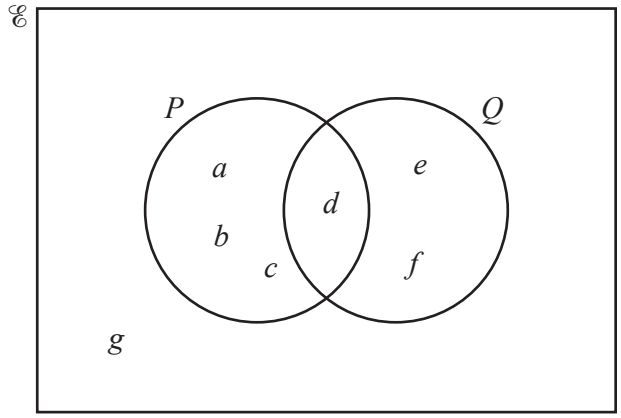
..... [1]

(b) 13, 17, 21, 25, …

Find the nth term of this sequence.

..... [2]

18



The Venn diagram shows the elements of the sets $\mathscr{E}$, P and Q.

Complete the statements.

(a) $P = \{$ ..... $\}$ [1]

(b) $n(P \cup Q) =$ ..... [1]

19 The bearing of A from B is 137°.

Find the bearing of B from A.

..... [2]

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20 **(a)** Write 0.00273 in standard form.

..... [1]

(b) Sam has to answer this question.

Calculate 9306×4532.
Give your answer in standard form correct to 3 significant figures.

Sam writes 42.1×10^6 as his answer to this question.

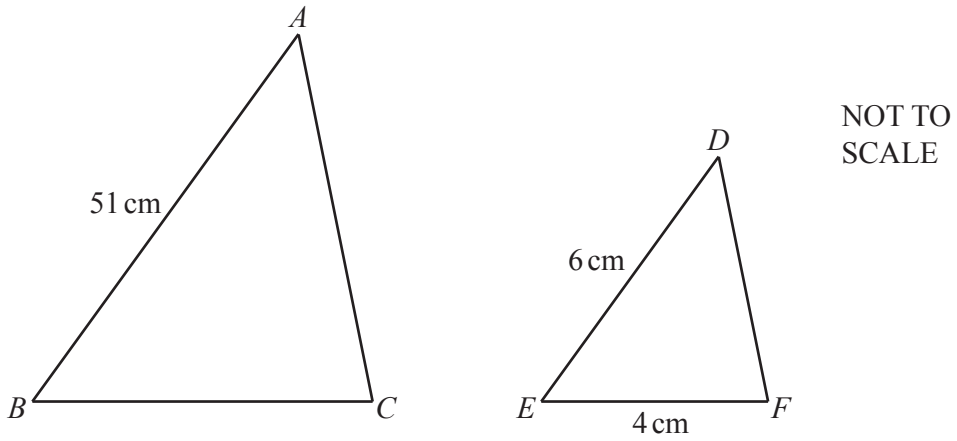
What two errors has Sam made?

Error 1 .....

Error 2 .....

[2]

21



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

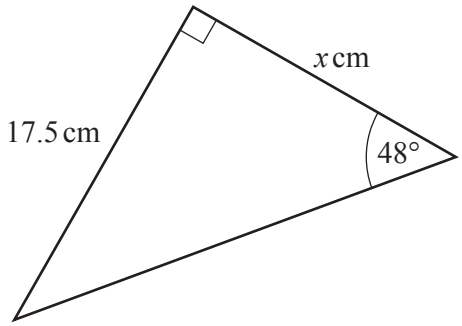
Find *BC*.

BC = ... cm [2]

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[Turn over

22



NOT TO SCALE

The diagram shows a right-angled triangle.

Show that the value of x is 15.8, correct to 3 significant figures.

[3]

23 Natalie buys 4 tomato plants and 3 pepper plants for \$9.35 .
Samir buys 2 tomato plants and 11 pepper plants for \$16.55 .

Write down a pair of simultaneous equations and solve them to find the cost of one tomato plant and the cost of one pepper plant.
You must show all your working.

Tomato plant \$ .....

Pepper plant \$ ..... [5]

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