Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

7302592640

MATHEMATICS **0580/13**

Paper 1 (Core) **May/June 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 [ ].

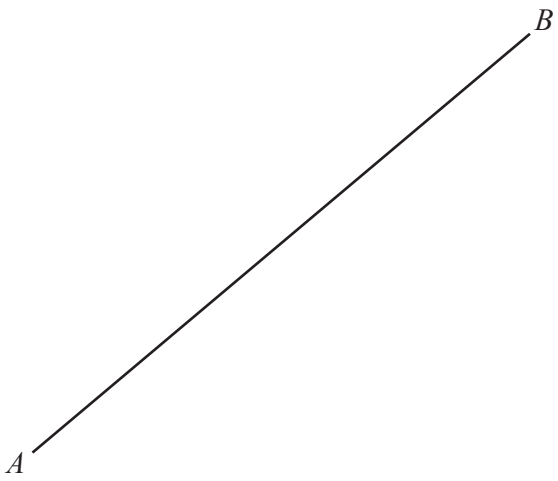
This document has **12** pages. Any blank pages are indicated.

[Turn over

1 Write the number one hundred and three thousand eight hundred and six in figures.

..... [1]

2



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

..... mm [1]

(b) Mark the midpoint, M, of the line AB. [1]

(c) Draw a line through M that is perpendicular to the line AB. [1]

3 Simplify.

$3x - 4x + 7x$

..... [1]

4 Work out the area of a rectangle that is 9.5 m long and 6.8 m wide.

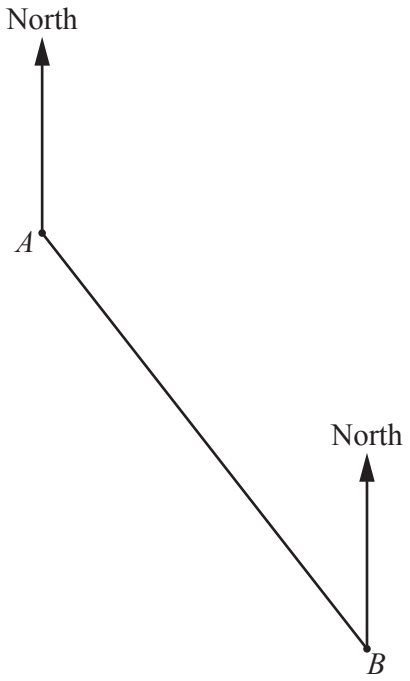
..... m^2 [2]

5 The probability of picking a red sweet from a bag is 0.05 .

Find the probability of not picking a red sweet.

..... [1]

6



Measure the bearing of point B from point A.

..... [1]

7 Work out the value of $\frac{mk^3}{\sqrt{3}}$ when $m = 4$ and $k = 7$.

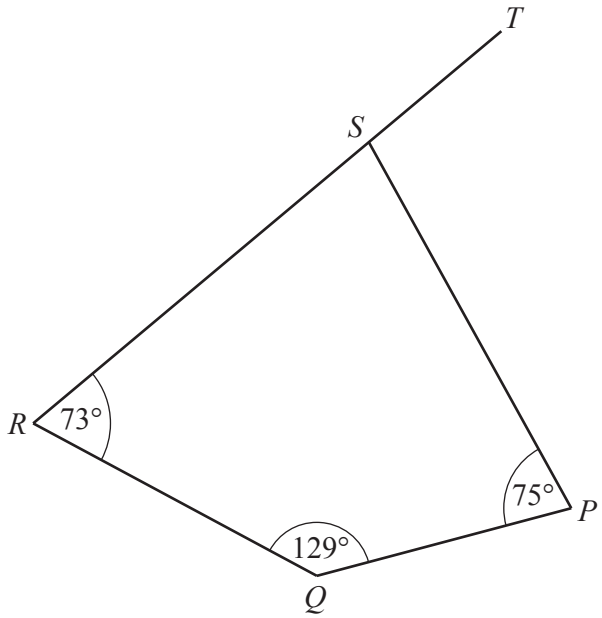
..... [2]

8 A box, in the shape of a cuboid, has volume 357 cm^3.
It has a length of 8.5 cm and a width of 6 cm.

Calculate the height of the box.

..... cm [2]

9



NOT TO SCALE

PQRS is a quadrilateral.
RST is a straight line.

Find angle *PST*.

Angle *PST* = ... [2]

10 These are the masses, in kg, of 12 parcels.

0.3 0.4 1.2 0.8 1.1 2.1 1.7 1.8 1.2 2.3 0.7 1.1

(a) Complete the stem-and-leaf diagram for the 12 parcels.

0	3 4
1	
2	

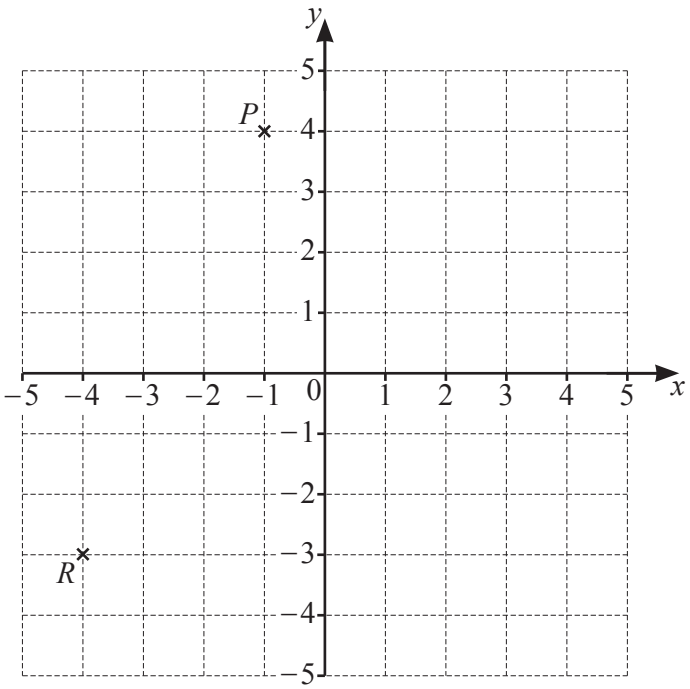
Key: 0 | 3 represents 0.3 kg

[2]

(b) Find the median.

..... kg [1]

11 The grid shows point P and point R.



(a) Write down the coordinates of point P.

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

(b) $\overrightarrow{PQ} = \begin{pmatrix} 3 \\ -2 \end{pmatrix}$

Mark point Q on the grid. [1]

(c) Find $\overrightarrow{QR}$.

$\overrightarrow{QR} = \begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [1]

(d) Complete this statement.

$\overrightarrow{PQ} + \overrightarrow{QR} =$ ..... [1]

12 Simplify.

(a) $y^3 \div y^5$

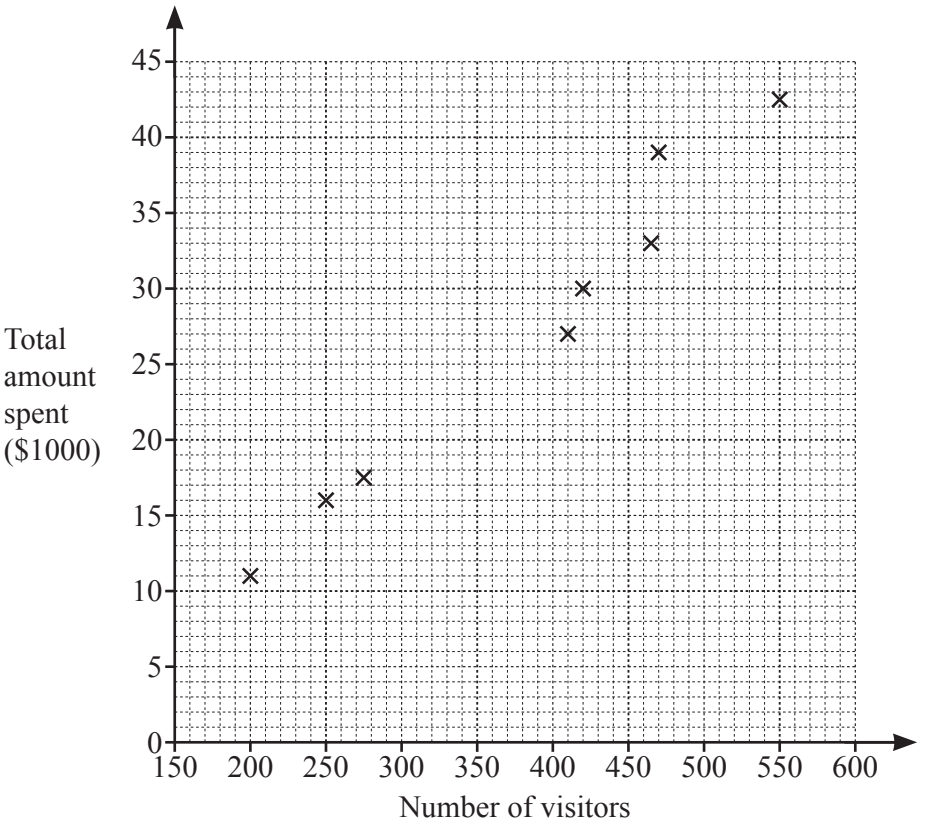
..... [1]

(b) $7x^0$

..... [1]

[Turn over

13 The scatter diagram shows the number of visitors and the total amount spent, in thousands of dollars, at a zoo on each of eight days.



(a) On one of the eight days there are 410 visitors.

Find the total amount spent by visitors during this day.

$ ..... [1]

(b) Information for the ninth day is shown in the table.

Number of visitors	175
Total amount spent ($1000)	9

Plot this information on the scatter diagram. [1]

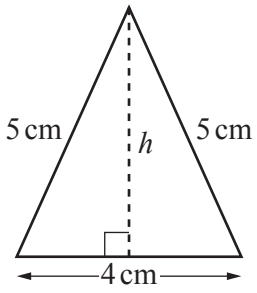
(c) Draw a line of best fit on the scatter diagram. [1]

(d) On the tenth day the total amount spent is $22 000.

Estimate the number of visitors on this day.

..... [1]

14



NOT TO SCALE

(a) Calculate the height, h, of the triangle.

$h =$ ..... cm [3]

(b) The triangle is one face of a square-based pyramid.

On the 1 cm^2 grid, draw a net of this pyramid.

[3]

15 Factorise completely.

$$18px - 27p$$

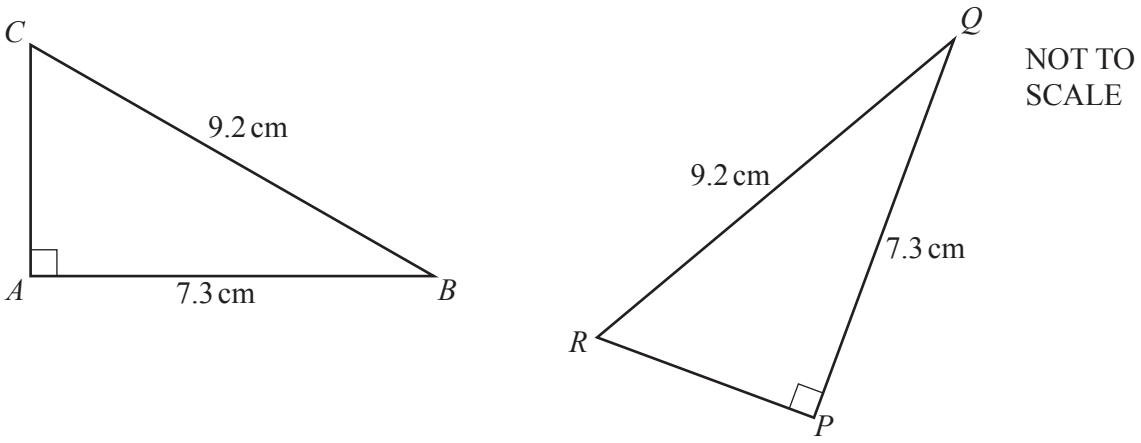
..... [2]

16 The nth term of a sequence is $n^2 - 1$.

Find the first three terms of this sequence.

....., ..., ... [2]

17



The diagram shows two right-angled triangles, ABC and PQR.

(a) Complete this statement with a geometrical term.

Triangle ABC is ..... to triangle PQR. [1]

(b) Calculate angle ABC.

Angle ABC = ... [2]

18 Find the lowest common multiple (LCM) of 32 and 40.

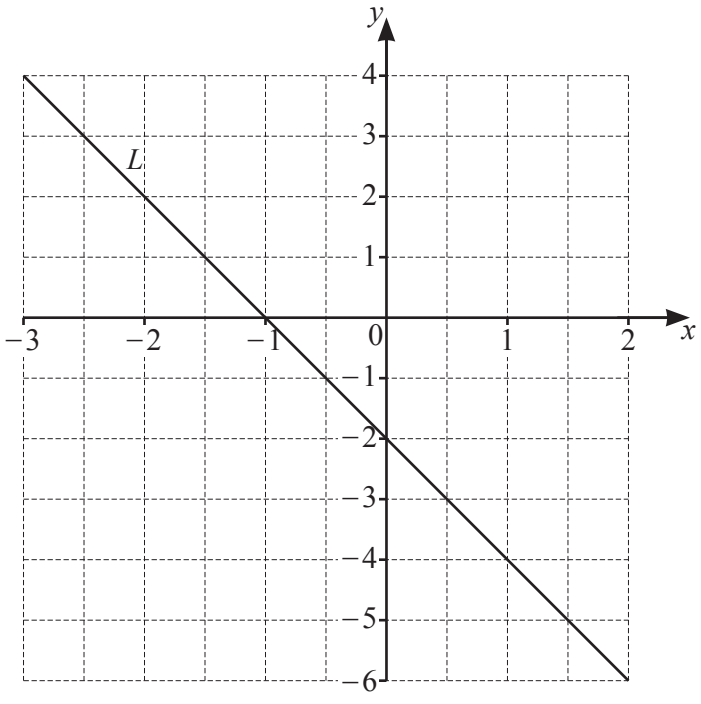
..... [2]

19 Joe thinks of a number, n, trebles it, and subtracts 5.
The result is 22.

Write this as an equation in terms of n, and solve the equation.

$n =$ ..... [3]

20



Find the gradient of line L.

..... [2]

21 Dominic asks 30 students in his class if they are right-handed or left-handed.
7 students are left-handed.

Work out the expected number of left-handed students in the whole school of 960 students.

..... [2]

22 **Without using a calculator**, work out $4\frac{1}{6} - 1\frac{7}{8}$.

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

..... [3]

23 Solve the simultaneous equations.
You must show all your working.

$$4x - 3y = 26$$
$$5x + 6y = 13$$

$x =$ .....

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

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