



Cambridge IGCSE™

CANDIDATE
NAME

--

CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--



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

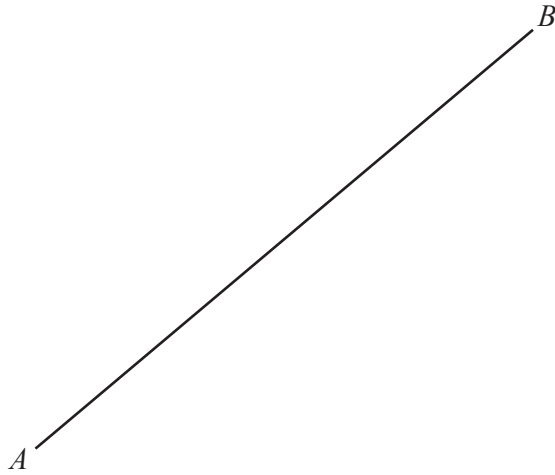
- The total mark for this paper is 56.
- The number of marks for each question or part question is shown in brackets [].

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

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.

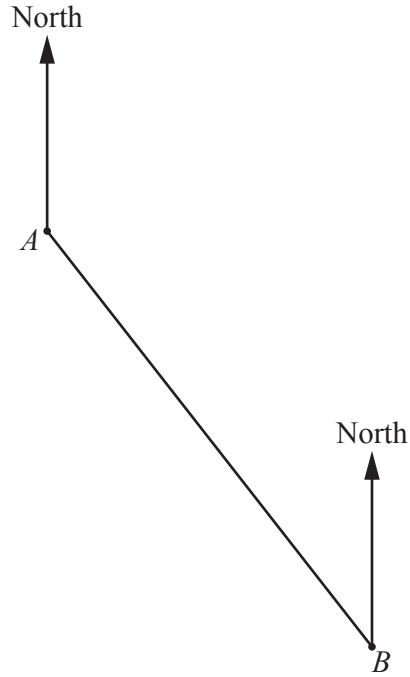
..... m^2 [2]

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]

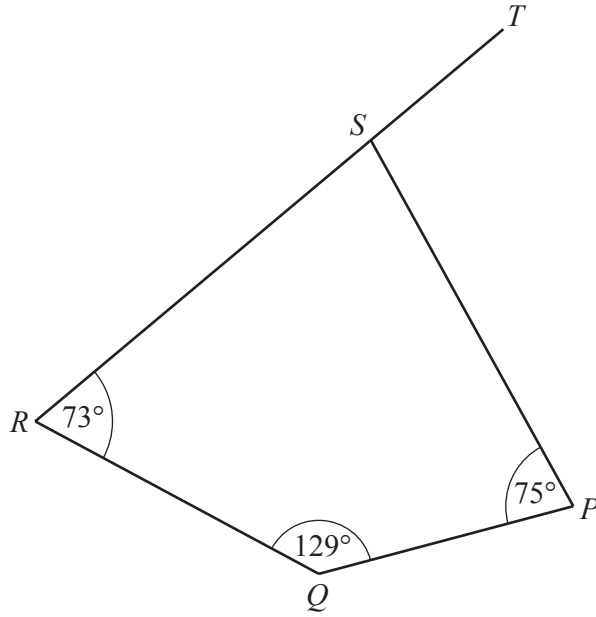
7 Work out the value of $\frac{mk^3}{\sqrt{3}}$ when $m = 4$ and $k = 7$.

..... [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]



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	

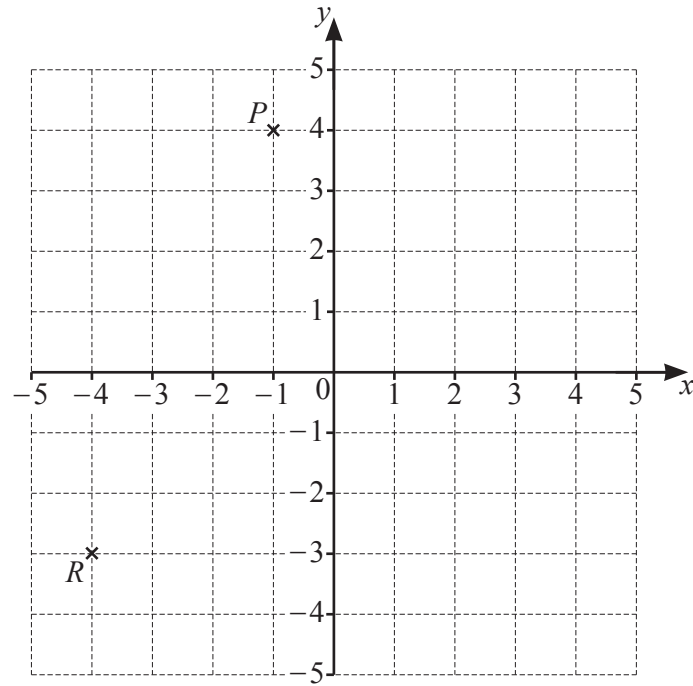
Key: 0 | 3 represents 0.3 kg

[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) $\vec{PQ} = \begin{pmatrix} 3 \\ -2 \end{pmatrix}$

Mark point Q on the grid.

[1]

(c) Find \vec{QR} .

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

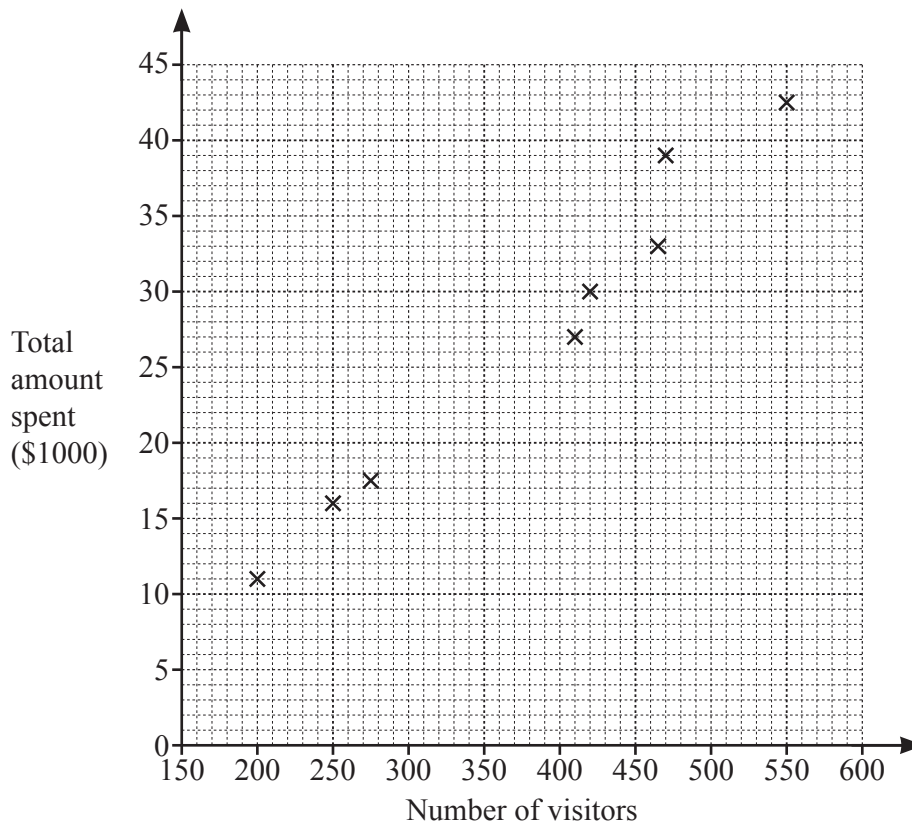
(d) Complete this statement. $\vec{PQ} + \vec{QR} = \underline{\hspace{2cm}}$
 [1]

12 Simplify.

(a) $y^3 \div y^5$ [1]

(b) $7x^0$ [1]

- 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.

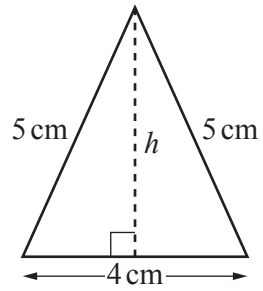
[1]

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

Estimate the number of visitors on this day.

..... [1]

14

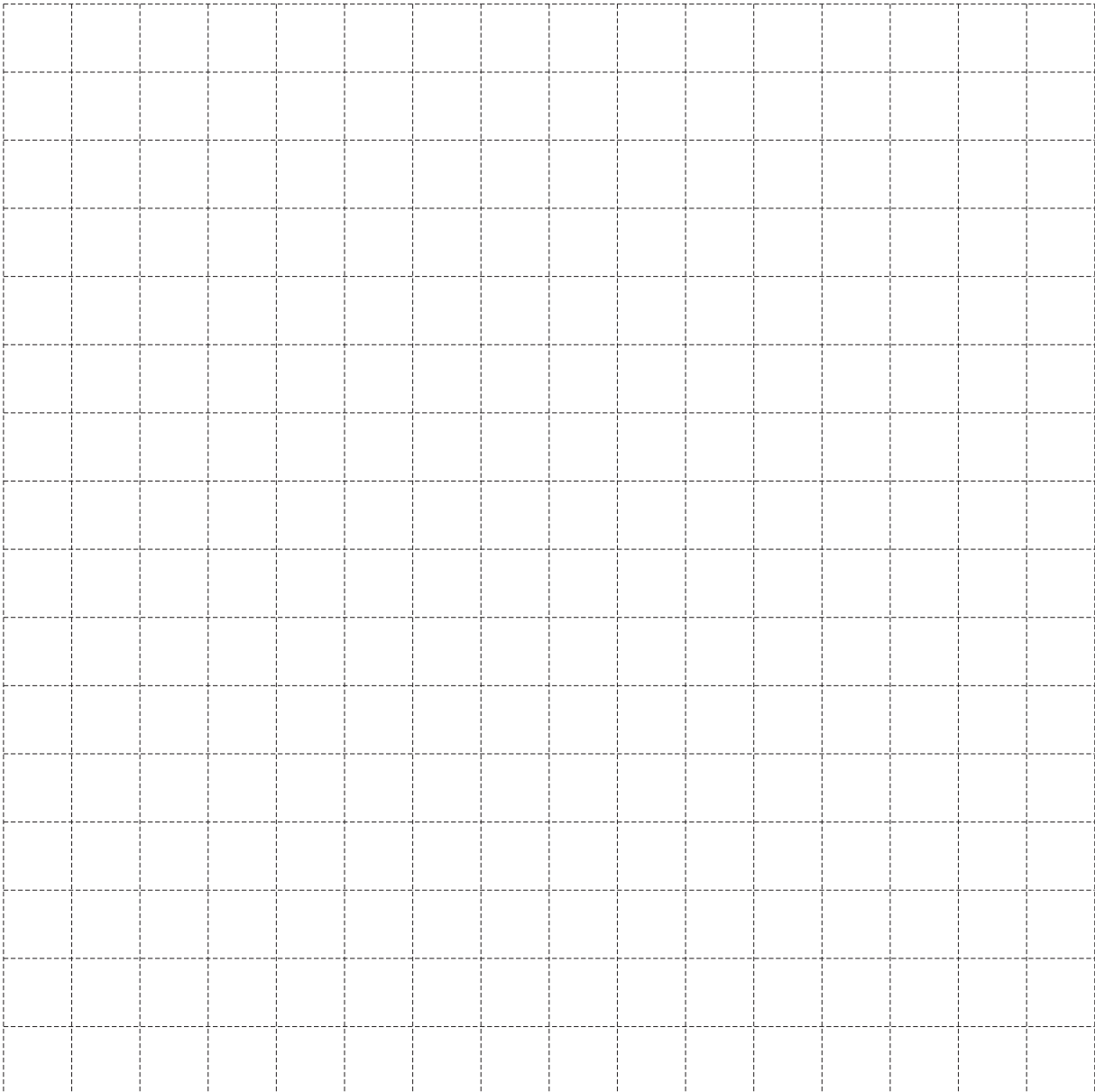
NOT TO
SCALE

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

$$h = \dots\dots\dots \text{ cm [3]}$$

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

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



15 Factorise completely.

$$18px - 27p$$

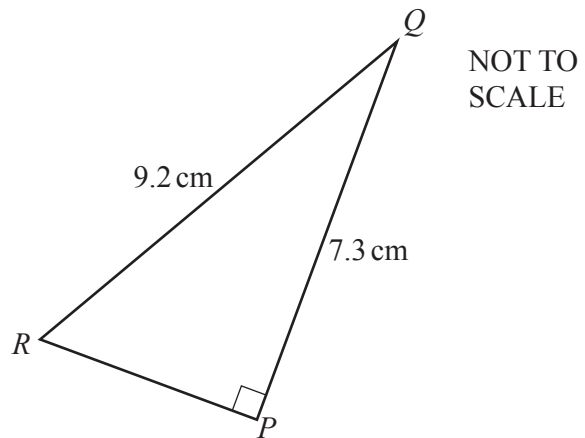
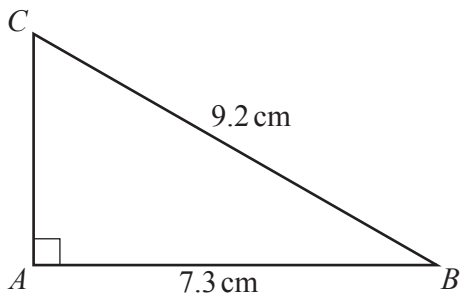
..... [2]

16 The n th 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.

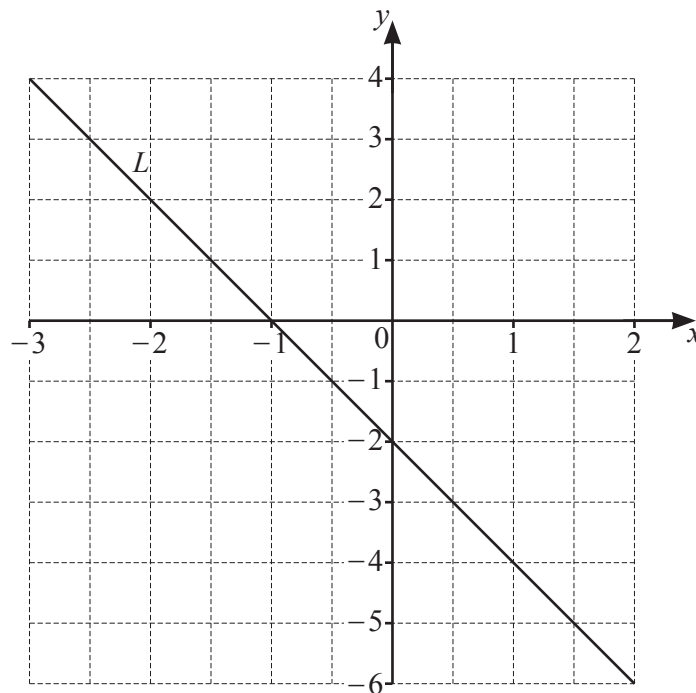
..... [2]

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]

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.