Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

MATHEMATICS **0580/11**

Paper 1 (Core) **May/June 2020**

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 [ ].

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1 Write down the value of the 7 in the number 570 296.

View solution

..... [1]

2 The table shows the temperature, in °C, at midday on the first day of each month during one year in a city.

View solution

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
9	11	15	19	23.5	27.5	29	28	25	19.5	14.5	10

Calculate the mean of these temperatures.

..... °C [2]

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

View solution

$\frac{13}{201}$ 5.6% 0.065 $\frac{5}{89}$

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

smallest

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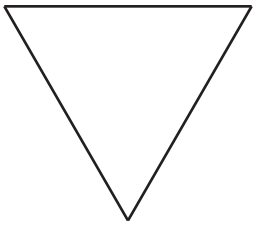
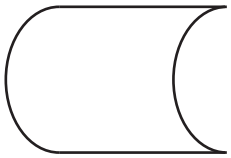
4 **(a)**

View solution

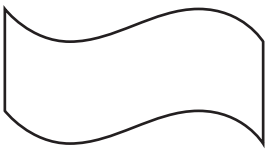




On each shape draw all the lines of symmetry. [3]

(b)

View solution

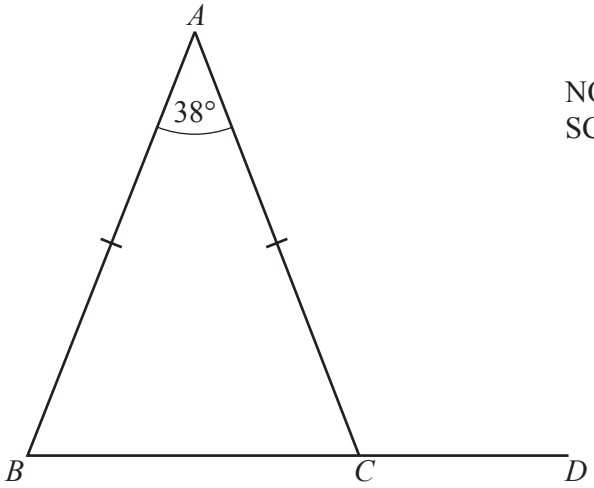


Write down the order of rotational symmetry of this shape.

..... [1]

5

View solution



NOT TO SCALE

In the triangle ABC, $AB = AC$ and angle $BAC = 38°$.
BCD is a straight line.

Work out angle ACD.

Angle ACD = ... [3]

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6 **(a)** Diego flies from Madrid to Buenos Aires.
His flight leaves at 20 55 and arrives at 03 50 local time.
The local time in Buenos Aires is 5 hours behind the local time in Madrid.

View solution

Work out, in hours and minutes, the time the flight takes.

..... h ..... min [2]

(b) Diego changes 200 euros into Argentine Peso.
The exchange rate is 1 euro = 24.8 pesos.

View solution

Work out how many pesos he receives.

..... pesos [1]

(c) The distance between Madrid and Buenos Aires is 10 050 km.
Diego's return flight takes 12 hours 30 minutes.

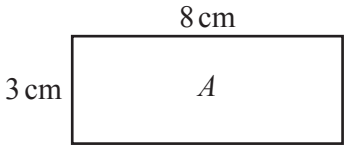
View solution

Calculate the average speed, in km/h, for the return flight.

..... km/h [1]

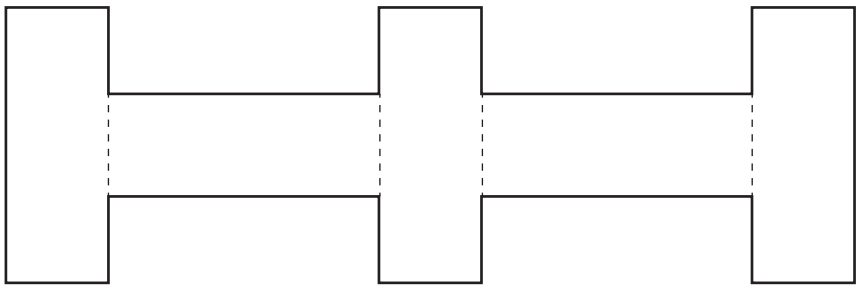
7 Rectangle A measures 3 cm by 8 cm.

View solution



NOT TO SCALE

Five rectangles congruent to A are joined to make a shape.



NOT TO SCALE

Work out the perimeter of this shape.

..... cm [2]

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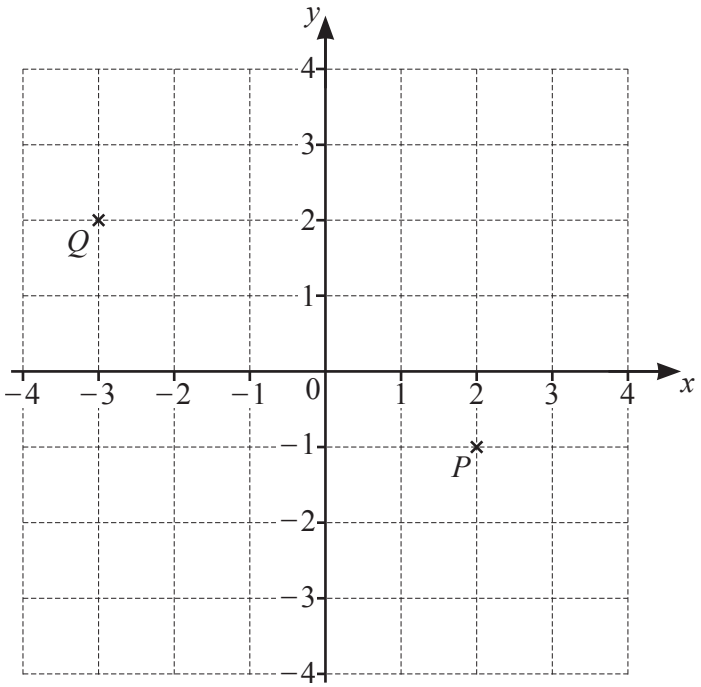
8 Find the highest **odd** number that is a factor of 60 and a factor of 90.

View solution

..... [1]

9



(a) Write $\overrightarrow{PQ}$ as a column vector.

View solution

( ) [1]

(b) Write $3\overrightarrow{PQ}$ as a single vector.

View solution

( ) [1]

10 Work out the size of one interior angle of a regular 9-sided polygon.

View solution

..... [2]

11 A cone has radius 4.5 cm and height 10.4 cm.

View solution

Calculate, in terms of π, the volume of the cone.
[The volume, V, of a cone with radius r and height h is $V = \frac{1}{3}\pi r^2 h$.]

..... cm^3 [2]

12 **(a)** The nth term of a sequence is $60 - 8n$.

View solution

Find the largest number in this sequence.

..... [1]

(b) Here are the first five terms of a different sequence.

View solution

12 19 26 33 40

Find an expression for the nth term of this sequence.

..... [2]

13 Factorise completely.

View solution

$21a^2 + 28ab$

..... [2]

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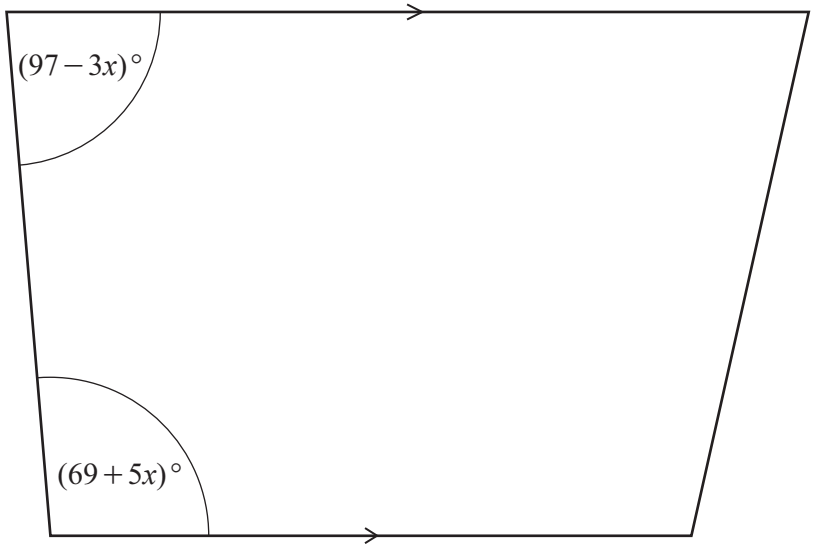
14 The diagram shows a trapezium.

View solution



NOT TO SCALE

Work out the value of x.

$x =$ ..... [3]

15 Simplify.

$$4p^5q^3 \times p^2q^{-4}$$

View solution

..... [2]

16 **(a)** Write the number 0.0605 in standard form.

View solution

..... [1]

(b) Calculate $(1.63 \times 10^{12}) \times (2.47 \times 10^{-1})$.
Give your answer in standard form.

View solution

..... [1]

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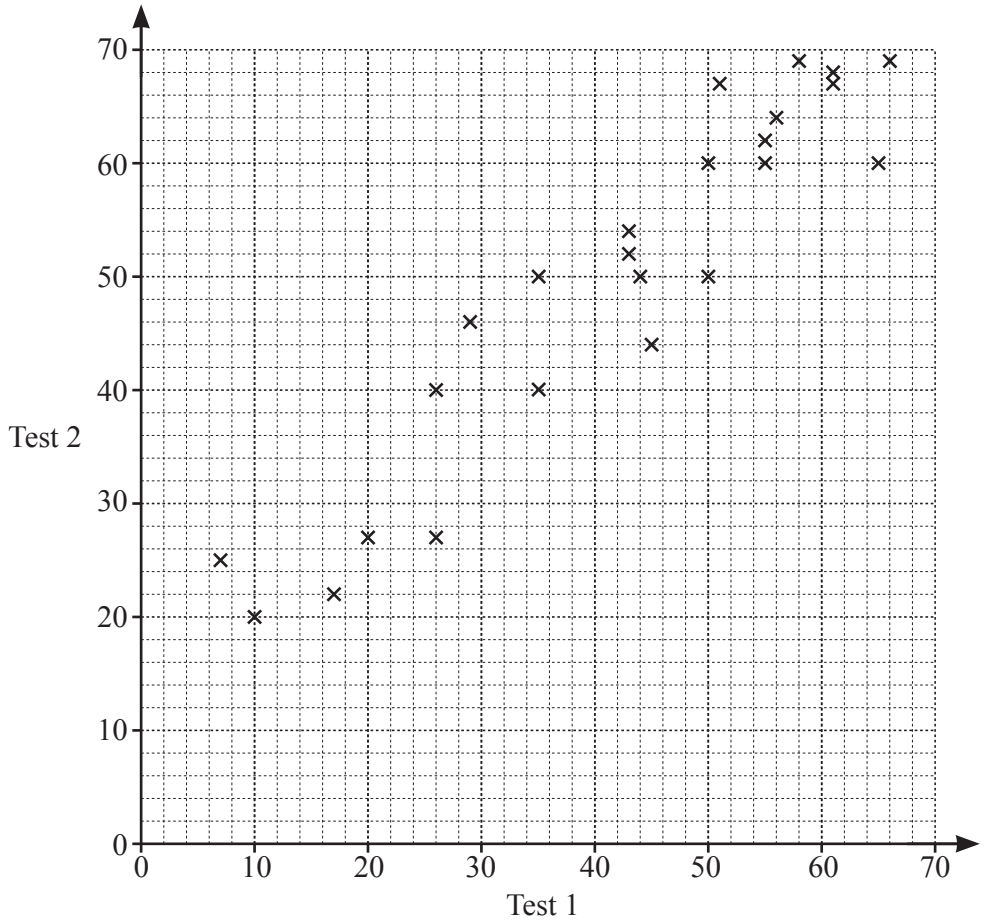
17 Expand and simplify.

$$(x-5)(x-7)$$

View solution

..... [2]

18 Mrs Salaman gives her class two mathematics tests.
The scatter diagram shows information about the marks each student scored.



View solution

(a) Write down the highest mark scored on test 1.

..... [1]

(b) Write down the type of correlation shown in the scatter diagram.

View solution

..... [1]

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

View solution

[1]

(d) Hamish scored a mark of 40 on test 1.
He was absent for test 2.

View solution

Use your line of best fit to find an estimate for his mark on test 2.

..... [1]

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19 The length, l cm, of a sheet of paper is 29.7 cm, correct to the nearest millimetre.

View solution

Complete this statement about the value of l.

..... $\leqslant l <$ ..... [2]

20 **Without using a calculator**, work out $\left(2\frac{1}{3}-\frac{7}{8}\right)\times\frac{6}{25}$.

View solution

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

..... [4]

21 Lucia invests \$5000 at a rate of 4.5% per year compound interest.

View solution

Calculate the value of her investment at the end of 7 years.

\$ ..... [2]

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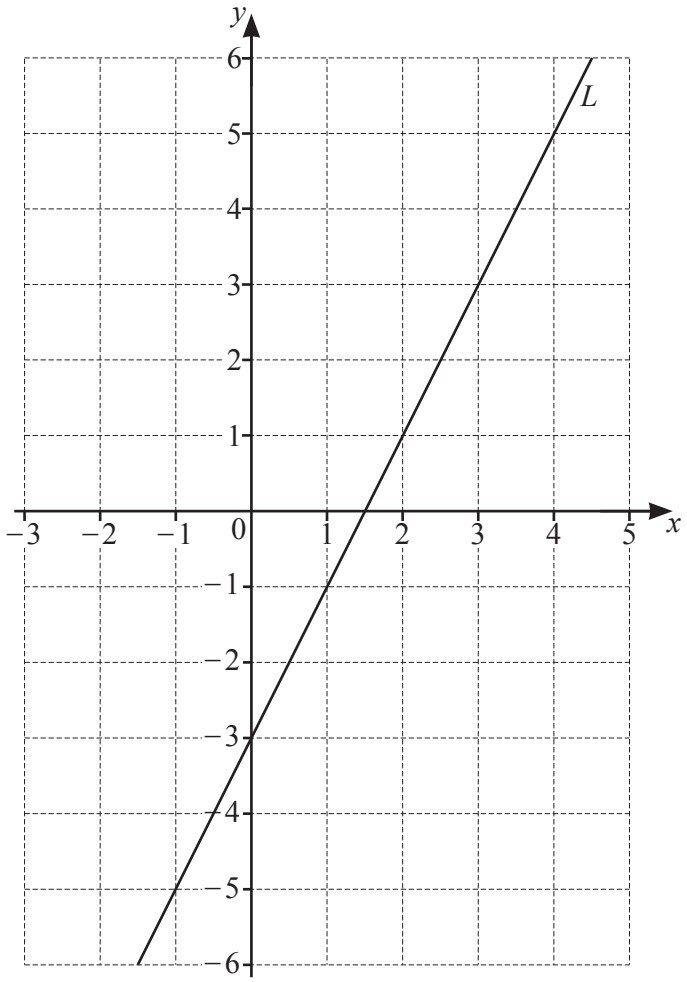
22



(a) Find the equation of line L in the form $y = mx + c$.

View solution

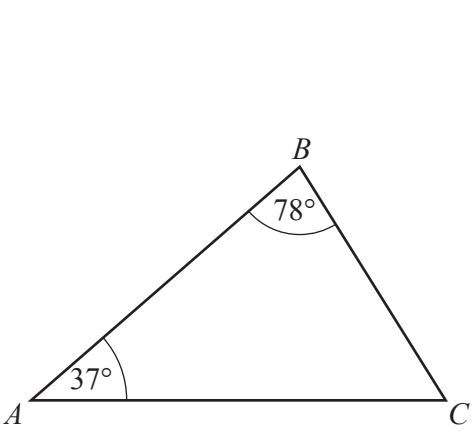
$y =$ ..... [2]

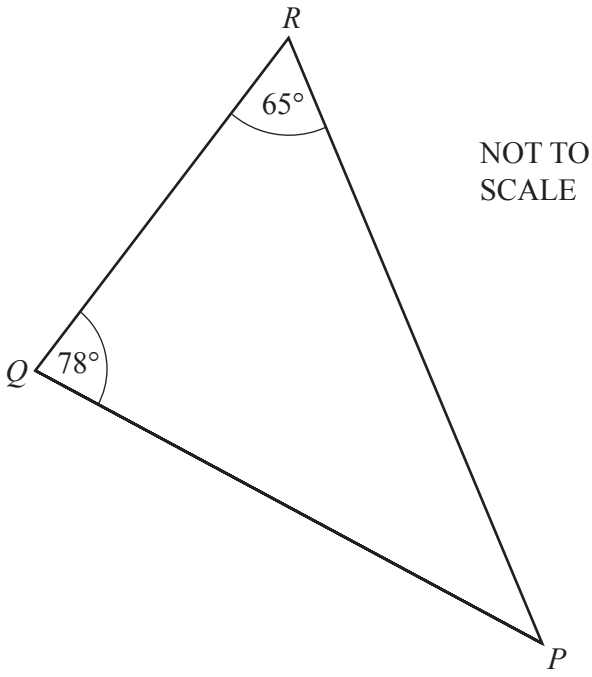
(b) On the grid, draw a line that is perpendicular to line L. [1]

View solution

23

View solution





NOT TO SCALE

Explain why triangle *ABC* is similar to triangle *PQR*.

.....

..... [2]

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