Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME	
CENTRE NUMBER	
CANDIDATE NUMBER	

MATHEMATICS **0580/11**

Paper 1 (Core) **October/November 2015**

1 hour

Candidates answer on the Question Paper.

Additional Materials: Electronic calculator
Tracing paper (optional)
Geometrical instruments

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
If working is needed for any question it must be shown below that question.
Electronic calculators should be used.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total of the marks for this paper is 56.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **11** printed pages and **1** blank page.

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1 Write these numbers in order of size, starting with the smallest.

View solution

5.024 0.524 5.204 5.0204

Answer ..... < ..... < ..... < ..... [1]
smallest

---

2 At midnight the temperature in Newtown was –8 °C.
At noon the next day the temperature in Newtown was 9 °C.

View solution

Work out the rise in temperature from midnight to noon.

Answer ..... °C [1]

---

3 Simplify $\frac{r^6}{r^2}$.

View solution

Answer ..... [1]

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4 **(a)** Work out $\frac{5}{12}$ of 168.

View solution

Answer(a) ..... [1]

(b) Write $\frac{3}{8}$ as a decimal.

View solution

Answer(b) ..... [1]

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5 Calculate.

(a) $3.2 \times (5.7 - 1.3) + 4.8$

View solution

Answer(a) ..... [1]

(b) $\sqrt{2.54 - 0.85}$

View solution

Answer(b) ..... [1]

---

6 $\mathbf{p} = \begin{pmatrix} 4 \\ -2 \end{pmatrix}$ $\mathbf{q} = \begin{pmatrix} -1 \\ 3 \end{pmatrix}$

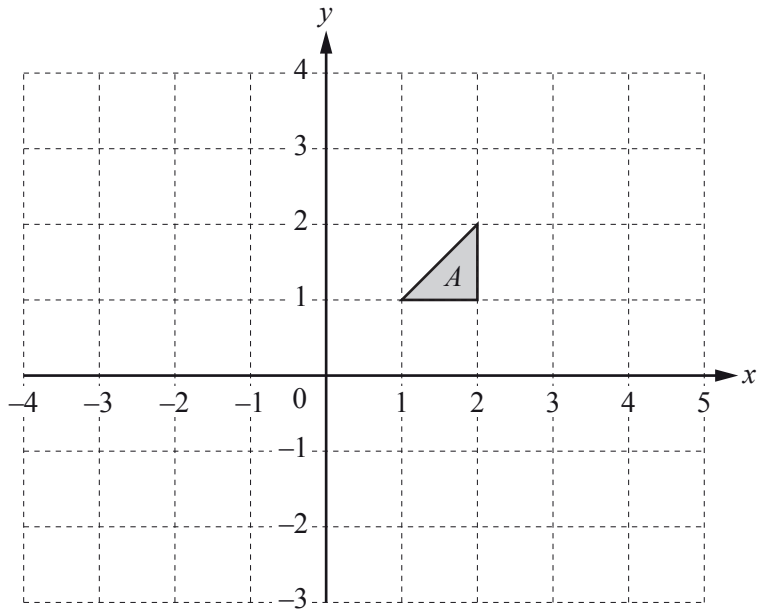
View solution

Work out $3\mathbf{p} - \mathbf{q}$.

Answer $\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [2]

7

View solution



Draw the image of shape A after a translation by the vector $\begin{pmatrix} 2 \\ -3 \end{pmatrix}$. [2]

---

8 Pip and Ali share \$785 in the ratio Pip : Ali = 4 : 1.

Work out Pip's share.

View solution

Answer \$ ..... [2]

---

9 Jim scores the following marks in 8 tests.

View solution

7 8 8 y 6 9 10 5

His mean mark is 7.5 .

Calculate the value of y.

Answer y = ... [2]

---

10 By writing each number correct to 1 significant figure, estimate the value of $\dfrac{\sqrt{3.9} \times 29.3}{8.9 - 2.7}$.

View solution

Show all your working.

Answer ..... [2]

---

11 Without using a calculator, work out $\frac{2}{5} \div \frac{3}{4}$.

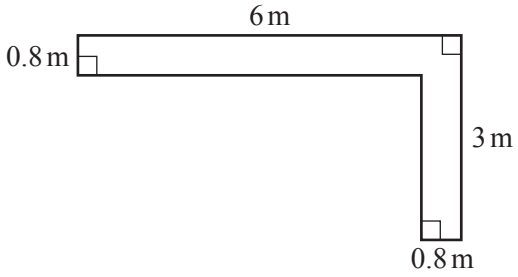
View solution

Give your answer as a fraction.
You must show each step of your working.

Answer ..... [2]

12

View solution



NOT TO SCALE

Leah is making a path in her garden using gravel.
The diagram shows the path.
A bag of gravel covers an area of $0.5\,m^2$.

Work out the number of bags of gravel Leah must buy to make the path.

Answer ..... [3]

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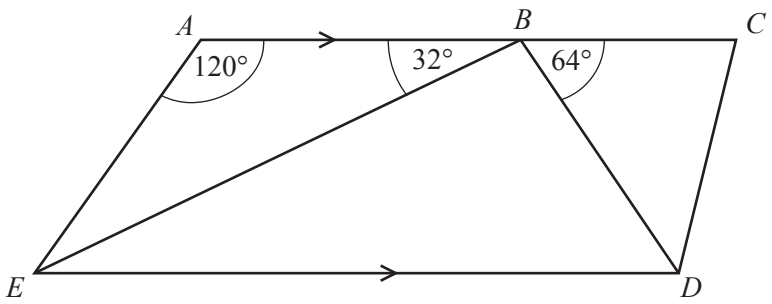
13



NOT TO SCALE

The diagram shows quadrilateral *ACDE*.
AC is parallel to *ED* and *B* is a point on *AC*.
Angle *EAB* = 120°, angle *ABE* = 32° and angle *CBD* = 64°.

(a) Work out angle *EBD*.

View solution

Answer(a) Angle *EBD* = ... [1]

(b) Work out angle *AEB*.

View solution

Answer(b) Angle *AEB* = ... [1]

(c) Complete this statement.

View solution

Angle *BED* = angle *ABE* because they are ..... angles. [1]

---

14 Work out the size of one interior angle of a regular 15-sided polygon.

View solution

Answer ..... [3]

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15 Chico has a bag of sweets.
He takes a sweet from the bag at random.
The table shows the probabilities of taking each flavour of sweet.

Flavour	Lemon	Lime	Strawberry	Blackcurrant	Orange
Probability	0.15	0.22		0.18	0.24

View solution

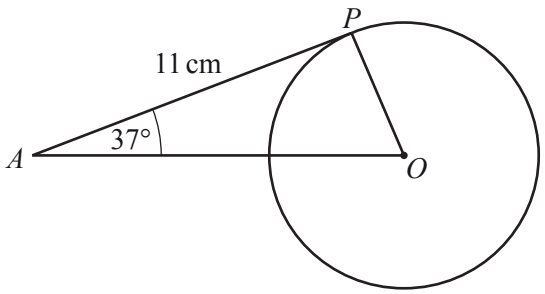
(a) Complete the table. [2]

View solution

(b) Find the probability that the sweet is lemon or lime.

Answer(b) ..... [1]

16



NOT TO SCALE

In the diagram, AP is a tangent to the circle at P.
O is the centre of the circle, angle $PAO = 37°$ and $AP = 11$ cm.

View solution

(a) Write down the size of angle OPA.

Answer(a) Angle OPA = ... [1]

View solution

(b) Work out the radius of the circle.

Answer(b) ..... cm [2]

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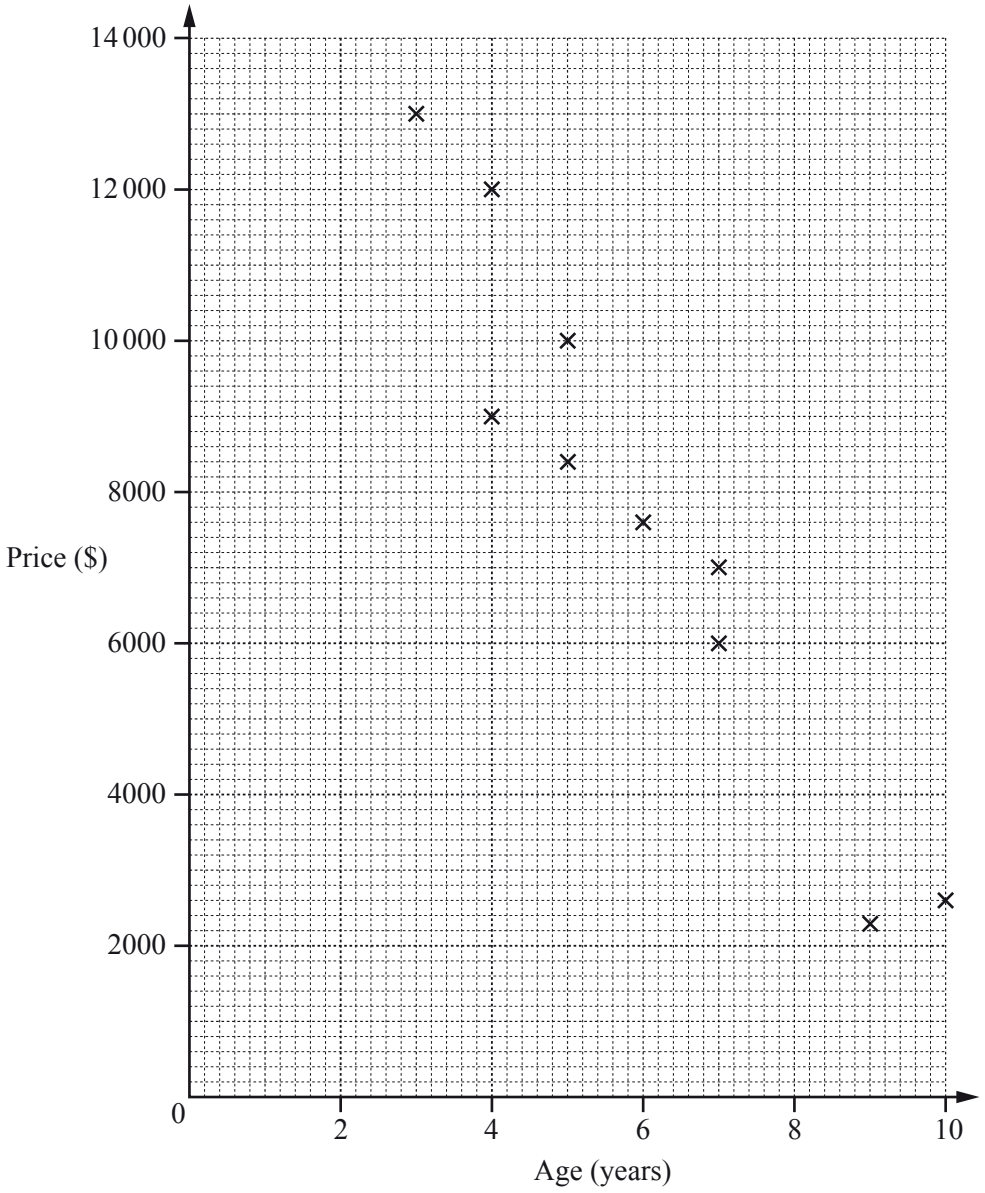
17 Amir looks at adverts for the same model of car.
The scatter diagram shows the age and price of each car.



(a) What type of correlation is shown on the scatter diagram?

View solution

Answer(a) ..... [1]

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

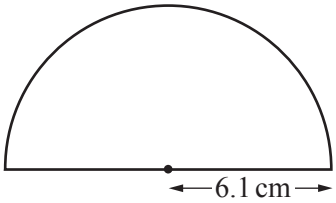
View solution [1]

(c) Use your line of best fit to estimate the price of a car that is 8 years old.

Answer(c) $ ..... [1]

View solution

18



NOT TO SCALE

View solution

A protractor is a semi-circle of radius 6.1 cm.

Calculate the **perimeter** of the protractor.

Answer ..... cm [3]

---

19 (a) $s = 4t + 3u$

View solution

Calculate s when $t = 2.6$ and $u = -0.4$.

Answer(a) $s =$ ..... [2]

(b) Solve $5x - 7 = 10$.

View solution

Answer(b) $x =$ ..... [2]

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20 **(a)** Maria travels by bus to the shopping mall.
She leaves home at 11 50 and arrives at the shopping mall at 12 17.

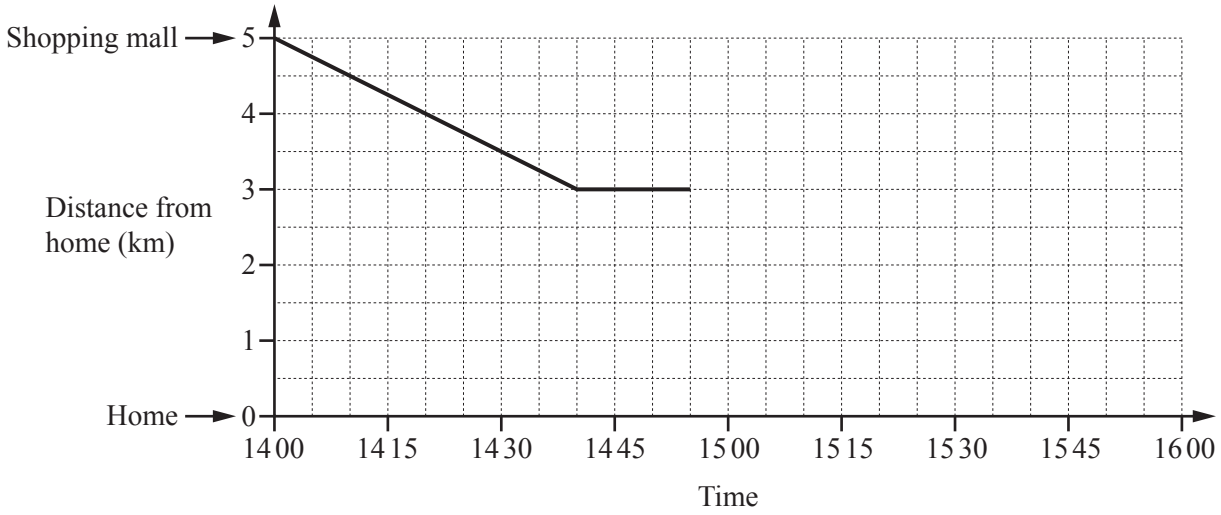
View solution

How many minutes does it take Maria to travel from home to the shopping mall?

Answer(a) ..... min [1]

(b)

View solution



Maria walks home from the shopping mall.
The travel graph shows part of her journey.

(i) Maria stops at her friend's house on the way home.

How far from the shopping mall does her friend live?

Answer(b)(i) ..... km [1]

(ii) Maria leaves her friend's house at 14 55.
She walks the rest of the way home at a constant speed of 4 km/h.

View solution

Complete the travel graph.

[2]

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21 **(a)** Sara works for 28 hours each week.
She earns \$12.45 per hour.

View solution

Calculate how much she earns in one week.

Answer(a) \$ ..... [1]

(b) Sara invests \$750 for 3 years at a rate of 2.4% per year compound interest.

View solution

Calculate the total amount she will have at the end of the 3 years.

Answer(b) \$ ..... [3]

---

22 **(a)** Write down the next term in each of these sequences.

View solution

(i) 5 9 13 17 . . .

Answer(a)(i) ..... [1]

(ii) 3 6 12 24 . . .

View solution

Answer(a)(ii) ..... [1]

(b) Here are the first four terms in a different sequence.

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2 7 12 17

Find an expression for the nth term of this sequence.

Answer(b) ..... [2]

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