

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				
0	Candidates answer or	n the Question Paper.					
49702*	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.



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

5.024 0.524 5.204 5.0204

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

Work out the rise in temperature from midnight to noon.

Answer °C [1]

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

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

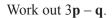
(b) Write $\frac{3}{8}$ as a decimal.

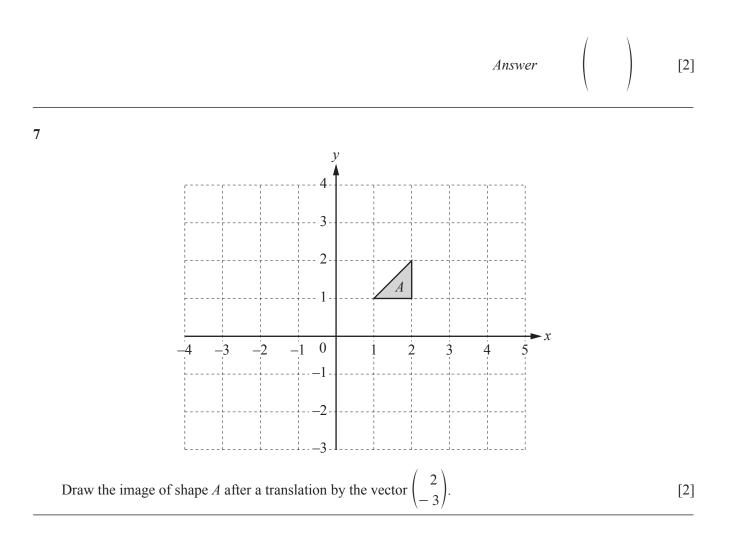
5 Calculate.

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

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

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





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

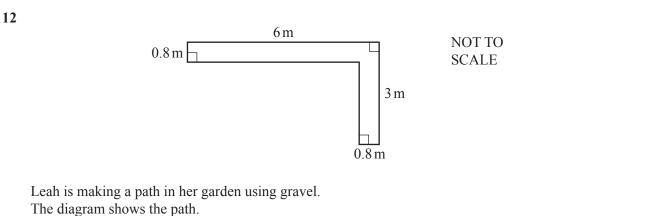
	Answer \$								[2]		
9	Jim scores the following marks in 8 tests.										
	7	,	8	8	у	6	9	10	5		
	His mean mark is 7.5.										
	Calculate the value of <i>y</i>										
							Answ	<i>er</i> $y =$			[2]

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

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

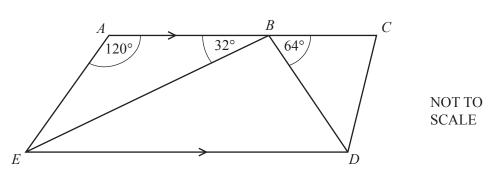
Give your answer as a fraction. You must show each step of your working.





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.



6

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

(a) Work out angle *EBD*.

13

Answer(a) Angle $EBD = \dots$ [1]

(b) Work out angle *AEB*.

$$Answer(b) \text{ Angle } AEB = \dots \qquad [1]$$

(c) Complete this statement.Angle *BED* = angle *ABE* because they areangles. [1]

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

15 Chico has a bag of sweets.

He takes a sweet from the bag at random.

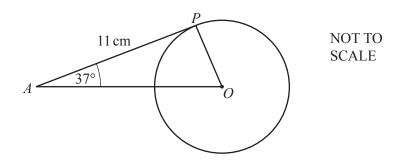
The table shows the probabilities of taking each flavour of sweet.

Flavour	Lemon	Lime	Strawberry	Blackcurrant	Orange	
Probability	0.15	0.22		0.18	0.24	

- (a) Complete the table.
- (b) Find the probability that the sweet is lemon or lime.

[2]

16



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

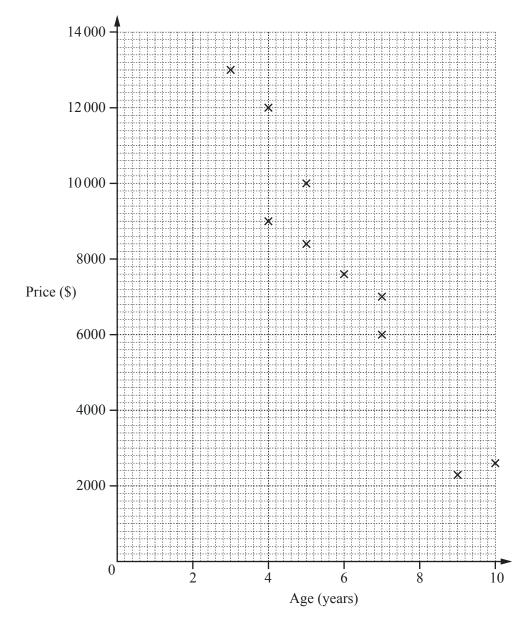
(a) Write down the size of angle *OPA*.

 $Answer(a) \text{ Angle } OPA = \dots \qquad [1]$

(b) Work out the radius of the circle.

Answer(b) cm [2]

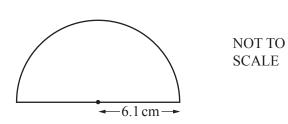
17 Amir looks at adverts for the same model of car. The scatter diagram shows the age and price of each car.



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

[1]

- (b) Draw a line of best fit on the scatter diagram.
- (c) Use your line of best fit to estimate the price of a car that is 8 years old.



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

18

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

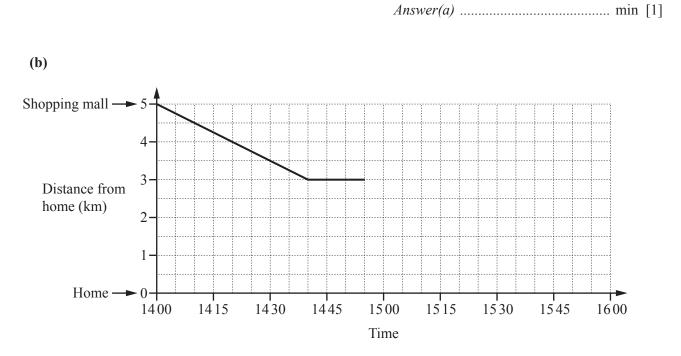
 $Answer(a) s = \dots [2]$

(b) Solve 5x - 7 = 10.

 $Answer(b) x = \dots [2]$

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.

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



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 1455.She walks the rest of the way home at a constant speed of 4 km/h.

Complete the travel graph.

Calculate how much she earns in one week.

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

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

22 (a) Write down the next term in each of these sequences. (i) 5 9 13 17 . . . (ii) **3** 6 12 24 . . . (b) Here are the first four terms in a different sequence. 2 7 12 17 Find an expression for the *n*th term of this sequence.

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