

9883604560\*

### **Cambridge International Examinations** Cambridge International General Certificate of Secondary Education

CANDIDATE NAME		
CENTRE NUMBER		CANDIDATE NUMBER
MATHEMATICS		0580/11
Paper 1 (Core)		October/November 2014
		1 hour
Candidates answ	ver on the Question Paper.	
Additional Mater	ials: 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.

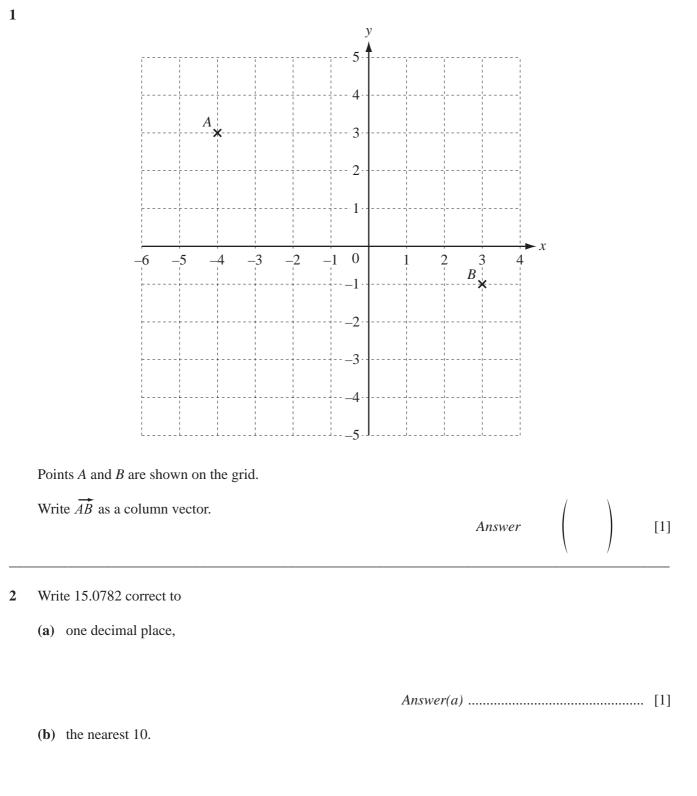
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place. For  $\pi$ , use either your calculator value or 3.142.

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 **12** printed pages.





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

4

3

# ZEBRA

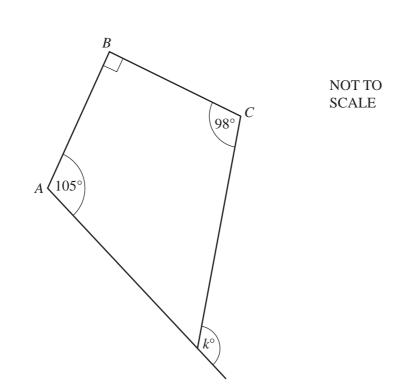
Write down the letters in the word above that have

(a) exactly one line of symmetry,

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

(b) rotational symmetry of order 2.

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



In the diagram, all four lines are straight. Angle  $A = 105^{\circ}$ , angle  $B = 90^{\circ}$  and angle  $C = 98^{\circ}$ .

Find the value of *k*.

Answer  $k = \dots$  [2]

5	These are the heights, correct to the nearest centimetre, of 12 children.											
	132	114	151	130	132	145	163	142	153	170	132	125
	Find the media	an heig	ht.									
								Α	nswer.			cm [2]
6	Write the follo	owing in	n order									
			π		3.14	$\frac{22}{7}$	-	3.142	2	3		
		Ai	nswer	smalles			<		<	<	•••••••	< [2]
	Without using											

7 Without using a calculator, work out  $\frac{1}{4} + \frac{1}{6}$ .

Write down all the steps in your working and give your answer as a fraction in its simplest form.

ly

letely.  $8w^2x - 12wy$ 

9 A cylinder has radius 3.6 cm and height 16 cm.

Calculate the volume of the cylinder.

10 Cheryl recorded the midday temperatures in Seoul for one week in January.

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Temperature (°C)	-4	-5	-3	-11	-8	-3	-1

(a) Write down the mode.

*Answer*(*a*) ..... °C [1]

(b) On how many days was the temperature lower than the mode?

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

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### **11** Simplify.

10x - 15 - 6x + 8

**12** (a) Write down a 2-digit odd number that is a factor of 182.

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

(b) Find all the prime factors of 182.

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

13 (a) Write  $2.8 \times 10^2$  as an ordinary number.

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

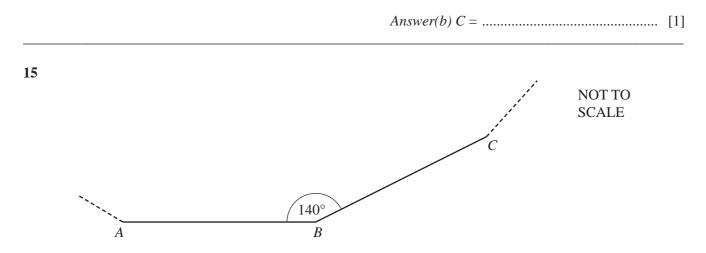
(b) Work out  $2.5 \times 10^8 \times 2 \times 10^{-2}$ . Give your answer in standard form.

- **14** To hire a bicycle it costs \$6 for each day, plus a fixed charge of \$15.
  - (a) Maria pays \$39 to hire a bicycle.

How many days does she hire it for?

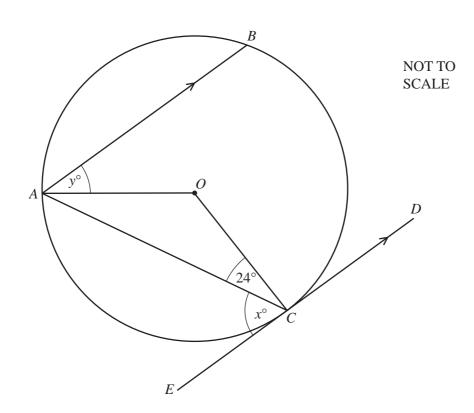
*Answer*(*a*) ..... days [2]

(b) Write down a formula for the cost, C dollars, to hire a bicycle for d days.



The diagram shows two sides, *AB* and *BC*, of a regular polygon. Angle  $ABC = 140^{\circ}$ .

Find the number of sides of this regular polygon.



8

The diagram shows a circle with centre *O*. *ED* is a tangent to the circle at *C*. *AB* is parallel to *ED* and angle  $ACO = 24^\circ$ .

Find the value of

(**a**) *x*,

**(b)** *y*.

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

17 Dominic invests \$850 at a rate of 3.5% per year compound interest.

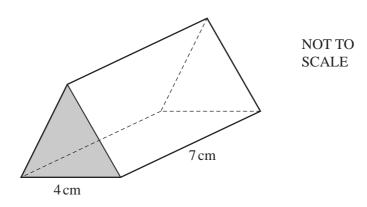
Calculate the **total** amount he has after 3 years.

*Answer* \$..... [3]

18 On a ship, the price of a gift is 24 euros ( $\in$ ) or \$30.

What is the difference in the price on a day when the exchange rate is  $\notin 1 = \$1.2378$ ? Give your answer in dollars, correct to the nearest cent.

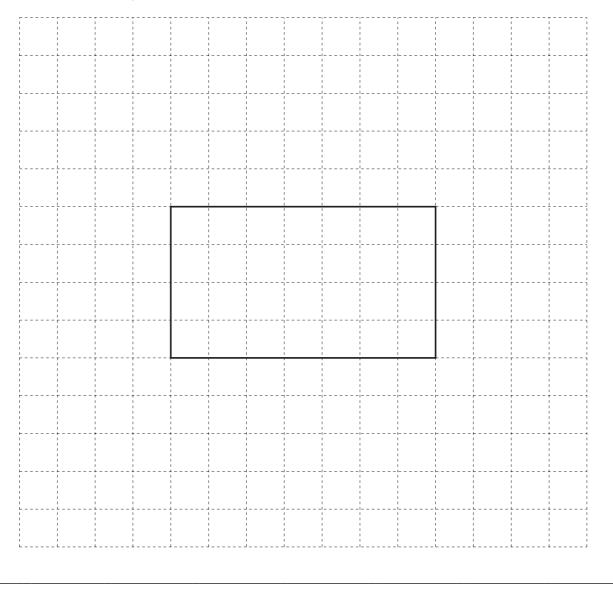
*Answer* \$.....[3]



10

The diagram shows a prism. The cross section is an equilateral triangle.

On the grid, draw an accurate net of the prism. The base is drawn for you.



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20 Solve the simultaneous equations.

$$5x + 2y = 16$$
$$3x - 4y = 7$$

Answer  $x = \dots$ 

**21** (a) Find the value of  $5x^2$  when x = -4.

(b) Make x the subject of the formula  $y = 5x^2$ .

#### Question 22 is printed on the next page.

Р

16 km

The diagram shows the route of a ship that leaves a port, P. It travels due west for 16km and then changes course to due south for 9km.

(a) Calculate the straight line distance PQ.

Answer(a) PQ = ..... km [2]

(b) Use trigonometry to calculate the bearing of *P* from *Q*.



9 km

22

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