Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

5359060919

MATHEMATICS **0580/12**

Paper 1 (Core) **May/June 2014**

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 Simplify the expression.

$$p + p + p + p$$

Answer ..... [1]

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2 Calculate $\frac{\sqrt[3]{16}}{1.3^2}$.

Answer ..... [1]

---

3 Write down in figures

(a) three hundred and forty thousand,

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

(b) the number that is one less than one million.

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

---

4 Write the following numbers in order, starting with the smallest.

$\frac{5}{11}$ $\sqrt{0.2}$ 45.4% $\frac{9}{20}$

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

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5 **(a)** The temperature on Monday was –6°C.
On Tuesday the temperature was 3 degrees lower.

Write down the temperature on Tuesday.

Answer(a) ..... °C [1]

(b) The temperature on Saturday was –2°C.
The temperature on Sunday was 8°C.

Write down the difference in these two temperatures.

Answer(b) ..... °C [1]

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6 **(a)** Write 569 000 correct to 2 significant figures.

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

(b) Write 569 000 in standard form.

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

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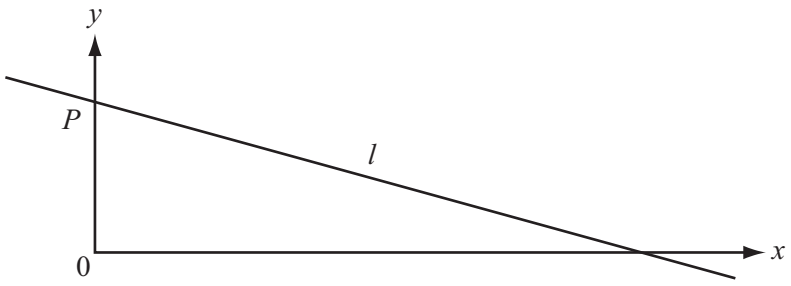
7 Find three numbers which have a mode of 4 and a mean of 6.

Answer ..... , ... , ... [2]

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[Turn over

8



NOT TO SCALE

The equation of the line l in the diagram is $y = 5 - x$.

(a) The line cuts the y-axis at P.

Write down the co-ordinates of P.

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

(b) Write down the gradient of the line l.

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

---

9 Solve the simultaneous equations.

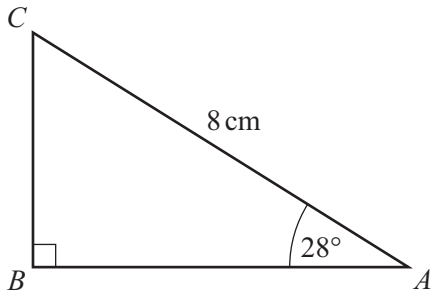
$$2x - y = 7$$
$$3x + y = 3$$

Answer x = ...

y = ... [2]

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10



NOT TO SCALE

Calculate the length of AB.

Answer AB = ... cm [2]

---

11 The height of Mount Everest is 8800 m, correct to the nearest hundred metres.

Complete the statement about the height, h metres, of Mount Everest.

Answer ..... $\leqslant h <$ ..... [2]

---

12 Colin is travelling from Sydney, Australia, to Auckland, New Zealand.

(a) Colin's bus leaves for Sydney airport at 12 38.
The bus arrives at the airport at 13 24.

How many minutes does the bus journey take?

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

(b) Colin's flight from Sydney to Auckland leaves at 14 45 local time and takes 3 hours 20 minutes.
The time in Auckland is 2 hours ahead of the time in Sydney.

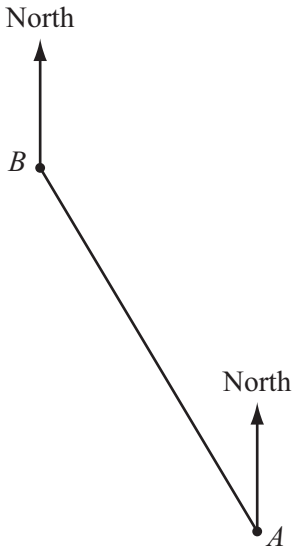
What is the local time in Auckland when his flight arrives?

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

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[Turn over

13 **(a)** The scale drawing shows the positions of two villages, *A* and *B*.
The scale is 1 centimetre represents 200 metres.



Scale: 1 cm to 200 m

(i) Measure the bearing of *B* from *A*.

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

(ii) Work out the actual distance from *A* to *B*.

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

(b) The post box in Village *A* has a volume of 84 000 cm^3.
The post box in Village *B* has a volume of 0.1 m^3.

Which post box has the greater volume?
Show how you decide.

Answer(b) Post box in Village ..... [1]

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14 $V = \frac{1}{3}Ah$

(a) Find V when $A = 15$ and $h = 7$.

Answer(a) $V =$ ..... [1]

(b) Make h the subject of the formula.

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

---

15 At the beginning of July, Kim had a mass of 63 kg.
At the end of July, his mass was 61 kg.

Calculate the percentage loss in Kim's mass.

Answer ..... % [3]

---

16 Without using your calculator, work out $\frac{5}{6} - \left(\frac{1}{2} \times 1\frac{1}{2}\right)$.

Write down all the steps of your working.

Answer ..... [3]

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17 A plane is travelling at 180 metres per second.

How many minutes will it take the plane to travel 800 km?
Give your answer correct to the nearest minute.

Answer ..... min [4]

---

18 **(a)** The probability that FC Victoria wins the cup is 0.18 .

Work out the probability that they do **not** win the cup.

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

(b) After training, the shirts are washed.
There are 5 red, 3 blue and 6 green shirts.
One shirt is taken from the washing machine at random.

Find the probability that it is

(i) red,

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

(ii) blue or green,

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

(iii) white.

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

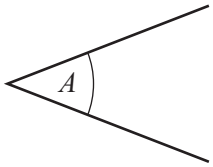
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similar	acute	line	perpendicular	radius
reflex	obtuse	parallel	congruent	isosceles

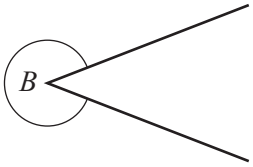
Choose the correct word from this box to complete each of these statements.

(a)



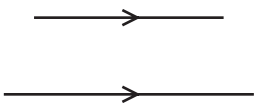
Angle *A* is ..... [1]

(b)



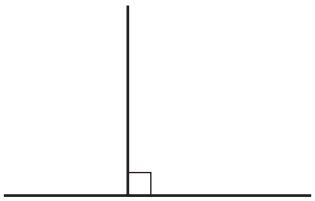
Angle *B* is ..... [1]

(c)



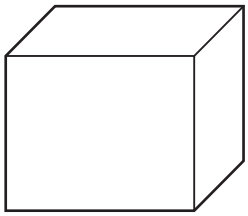
These lines are ..... [1]

(d)



These lines are ..... [1]

20



NOT TO SCALE

Each edge of this cube is 6.7 cm long.

Work out

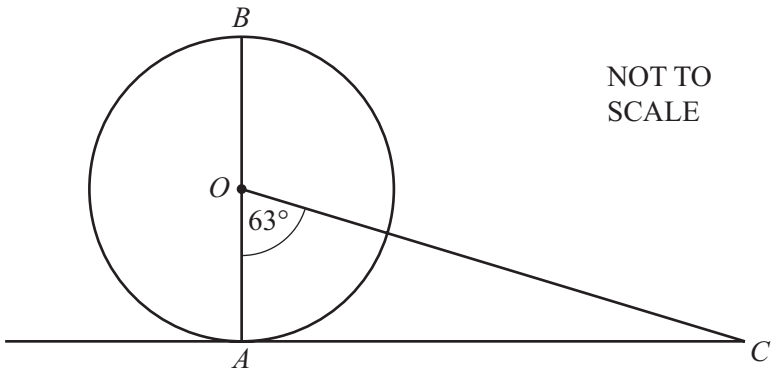
(a) the volume,

Answer(a) ..... cm^3 [2]

(b) the surface area.

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

21



The diagram shows a circle, centre O with diameter $AB = 15$ cm.
AC is a tangent to the circle at A and angle $AOC = 63°$.

(a) Calculate the area of the circle.

Answer(a) ..... cm^2 [2]

(b) (i) Work out the size of angle ACO.

Answer(b)(i) Angle ACO = ... [2]

(ii) Give one geometrical reason for your answer to **part (b)(i)**.

Answer(b)(ii) .....

..... [1]

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