Name	Class

For **Pearson Edexcel**
Level 1/Level 2 GCSE (9 – 1)

Mathematics

Paper 1 (Non-Calculator)

Foundation Tier

Time: 1 hour 30 minutes | Churchill Paper 1A

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. | Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Write your name** in the box at the top of this page.
- Answer **all** questions in the spaces provided.
- **Calculators may not be used.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out**.

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets.
  - use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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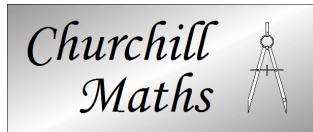
Written by Shaun Armstrong

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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

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

$$0.205 \qquad 0.025 \qquad 0.21 \qquad 0.2$$

....

(Total for Question 1 is 1 mark)

2   Work out how many seconds there are in 5 minutes.

....

(Total for Question 2 is 1 mark)

3   Find the value of $p + q$ when $p = 4.7$ and $q = -1.5$

....

(Total for Question 3 is 1 mark)

4   Work out how long a car travelling at 60 km/h takes to travel 45 km.

.... minutes

(Total for Question 4 is 2 marks)

5   A hot dog costs £2.80
A hot dog with cheese costs 15p more.

Steve and Lennie have £20.

Steve says "Let's buy as many hot dogs with cheese as we can."
Lennie says "If we don't have the cheese we can get an extra hot dog."

Find out if Lennie is correct.

You must justify your answer.

....

(Total for Question 5 is 4 marks)

6   A group of children were asked what their favourite pet was.
The results are shown in the pictogram.

Dog	
Cat	
Rabbit	
Guinea Pig	
Hamster	

Key: represents 2 children

(a)   How many children said Cat was their favourite pet?

....

(1)

Mona says

       "More than a third of the children chose Dog as their favourite."

(b)   Is Mona correct?

Show working to support your answer.

....

(3)

(Total for Question 6 is 4 marks)

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7
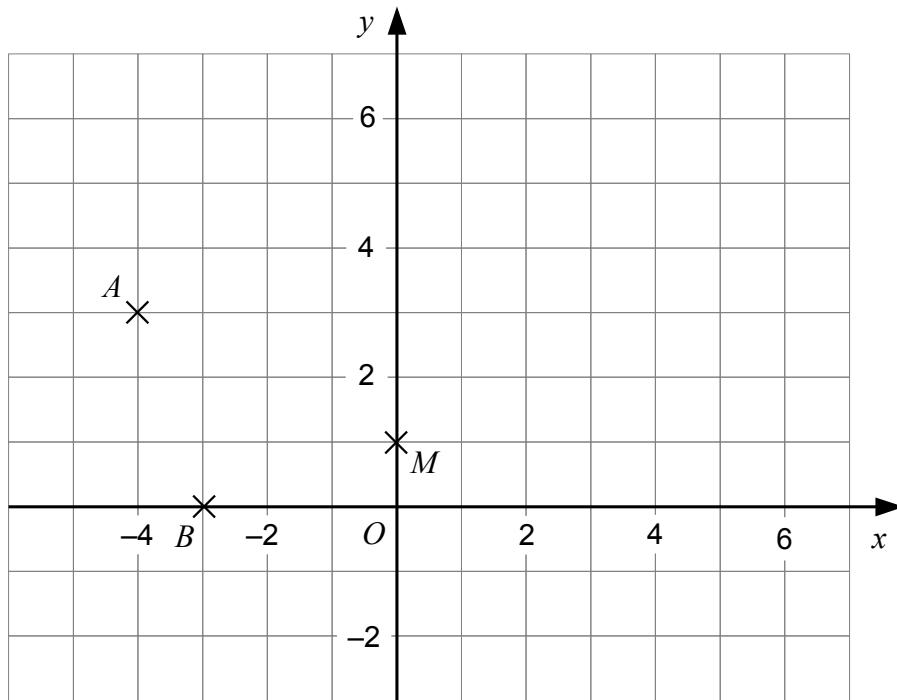
The points *A*, *B* and *M* are shown on the grid.

(a)   Write down the coordinates of the point *A*.

....

(1)

M is the midpoint of *BC*.

(b)   Plot the point *C* on the grid.

(1)

ABCD is a rectangle.

(c)   Write down the coordinates of the point *D*.

....

(2)

(Total for Question 7 is 4 marks)

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8 Simplify

(a) $5p - 2p + p$

....

(1)

(b) $4m - 2n + 3m + 5n$

....

(2)

(Total for Question 8 is 3 marks)

9 Fill in the missing numbers to make each calculation correct.

(a) $2.7 \; + \; \boxed{} \; = \; 3.55$

(1)

(b) $\dfrac{2}{5} \; - \; \boxed{} \; = \; \dfrac{3}{10}$

(1)

(c) $4 \; \times \; \boxed{} \; = \; 0.12$

(1)

(Total for Question 9 is 3 marks)

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10
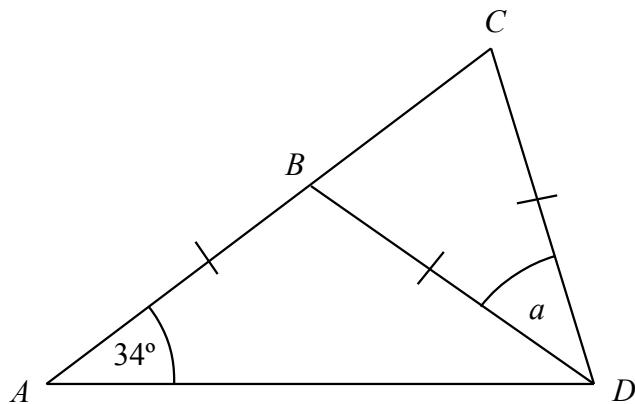
In the diagram, $AB = BD = CD$.

ABC is a straight line.

Work out the size of angle a.

Give a reason for each stage of your working.

....°

(Total for Question 10 is 4 marks)

11 Solve $5y = 2y + 18$

....

(Total for Question 11 is 2 marks)

12
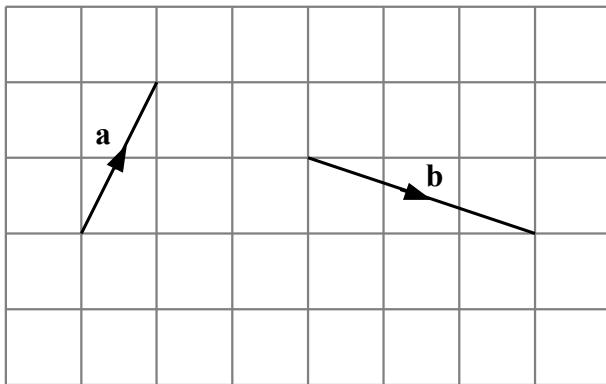
Vectors **a** and **b** are shown on a unit grid.

Vector **a** can be written as $\begin{pmatrix} 1 \\ 2 \end{pmatrix}$.

(a)   Write vector **b** as a column vector.

....

(1)

(b)   Work out $4\mathbf{a} - \mathbf{b}$.

Give your answer as a column vector.

....

(2)

(Total for Question 12 is 3 marks)

13 Jeremy, Kira and Liz are maths teachers.

Jeremy can mark 12 homeworks in an hour.
Kira can mark 30 homeworks in 2 hours.
Liz can mark 1 homework every 6 minutes.

(a) Show that Kira is the quickest of the three teachers at marking homework.

(2)

One night, Jeremy and Kira work together to mark 36 homeworks.
They both start at 4.30 pm and work until all the homeworks are marked.

(b) At what time do Jeremy and Kira finish marking?

....

(3)

(Total for Question 13 is 5 marks)

14   Toby makes bracelets by putting 8 beads, 4 spacers and a heart charm on a silver chain.
He buys the separate items in bulk at the following prices:

20 silver chains	£180
500 beads	£750
100 spacers	£90
30 heart charms	£120
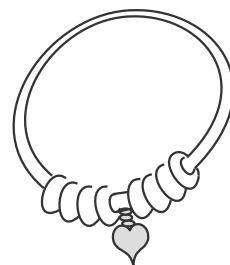
(a)   Work out the cost of the materials for one bracelet.

£...

(3)

At a market one day, Toby sells 15 bracelets for £39.90 each.

(b)   How much profit does he make at the market?

£...

(2)

(Total for Question 14 is 5 marks)

15

6 cm

6 cm

L cm
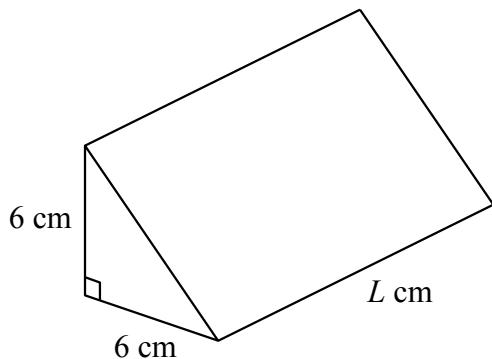
Kayla is playing with blocks.

Each block is a prism.

The cross section of the prism is
a right-angled triangle as shown.

Kayla uses 5 of the blocks to make a house.
The volume of the house is 990 cm³.

Work out the length, L cm, of each block.
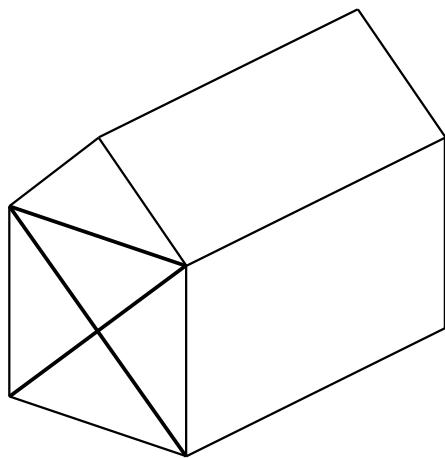
.... cm

(Total for Question 15 is 3 marks)

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16 (a) Write 112 as a product of its prime factors.

....
(2)

(b) Find the highest common factor (HCF) of 112 and 140.

Give your answer as a single number.

....
(2)

(Total for Question 16 is 4 marks)

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17 A bag contains only red beads and blue beads.

Faria picks out a bead at random, notes its colour and puts the bead back.
Faria does this 10 times and gets a red bead 7 times.

Faria says "There are more red beads than blue beads in the bag."

(a) Comment on Faria's statement.

....

....

(1)

Rosa, Shamila and Tess each do the same experiment as Faria.
Here are all the results.

|	Number of times a red bead is picked	Number of times a blue bead is picked
Faria	7	3
Rosa	6	4
Shamila	8	2
Tess	6	4

Faria is going to pick out another bead and put it back in the bag.

(b) Using the results in the table, work out the best estimate for the probability that she picks out a red bead.

....

(2)

(Total for Question 17 is 3 marks)

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18
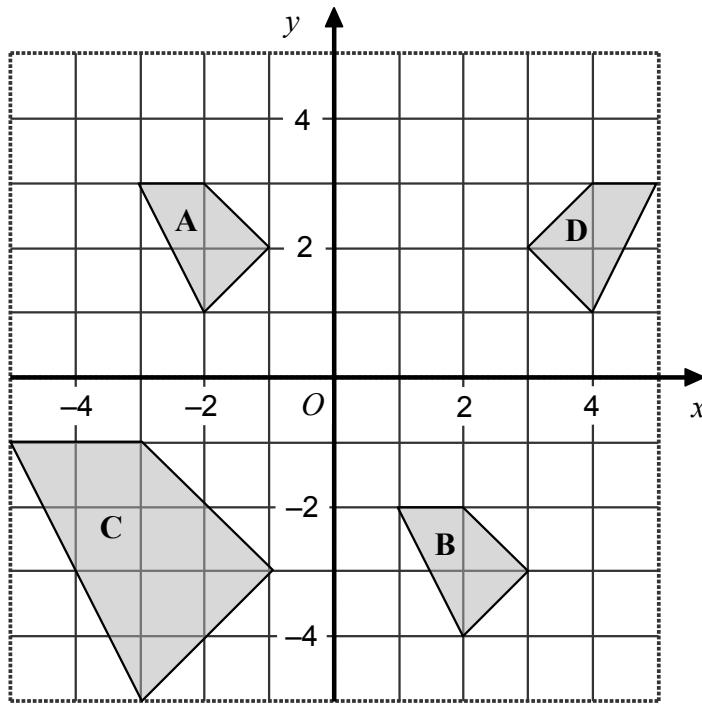
The shapes **A**, **B**, **C** and **D** are shown on a coordinate grid.

(a)   Which of the shapes **B**, **C** and **D** are congruent to shape **A**?

....
(1)

(b)   Shape **A** is translated by the vector $\begin{pmatrix} p \\ q \end{pmatrix}$ to give shape **B**.

Write down the values of p and q.

$p =$ ....

$q =$ ....
(2)

(c)   Shape **A** is enlarged to give shape **C**.

Write down the scale factor of the enlargement.

....
(1)

(d)   Shape **A** is reflected in the line L to give shape **D**.

Write down an equation for the line L.

....
(1)

(Total for Question 18 is 5 marks)

19 500 children are members of a club.
There are 100 more boys in the club than girls.

A year later the number of children who are members has increased by 20%.
The number of boys in the club has increased by 16%.

Work out the percentage increase in the number of girls in the club.

.... %

(Total for Question 19 is 4 marks)

20 (a)
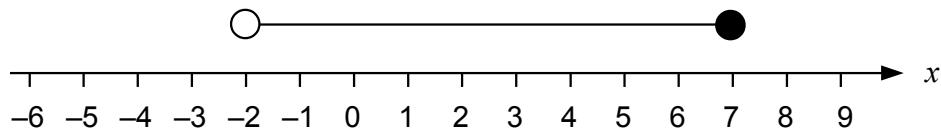
Write down the inequality represented by the diagram above.

....

(1)

(b) Find the whole number N given that

$$2N < 30 \quad \text{and} \quad 3N > 40$$

...

(2)

(Total for Question 20 is 3 marks)

21
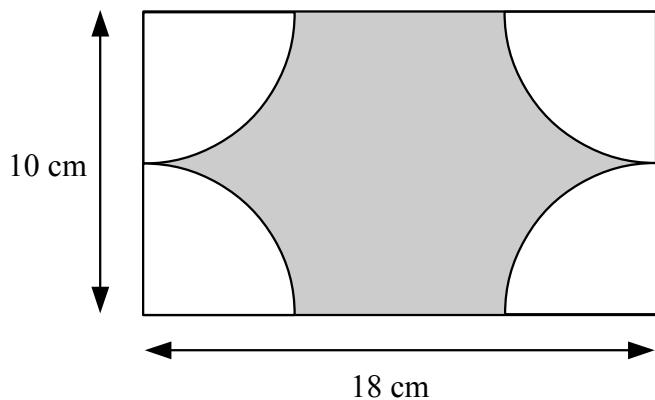
A rectangle measures 18 cm by 10 cm.

Four identical quarter-circles are removed to leave the shaded region shown above.

Work out the area of the shaded region.

Give your answer in terms of π.

.... cm^2

(Total for Question 21 is 3 marks)

22 (a) Write down the value of $\sqrt[3]{8}$

....
(1)

(b) Work out the value of

$$5^2 + 4^3 + 3^4$$

....
(2)

(c) Work out $(3 \times 10^4) + (3 \times 10^3)$

Give your answer in standard form.

....
(2)

(Total for Question 22 is 5 marks)

23   Jamila, Kelly and Lee go to the bakery.

Jamila pays £3 for 3 baguettes and 2 rolls.

Kelly pays £2 for 1 baguette and 4 rolls.

Lee buys 2 baguettes and 5 rolls.

Work out how much Lee pays.

£ ....

(Total for Question 23 is 4 marks)

24
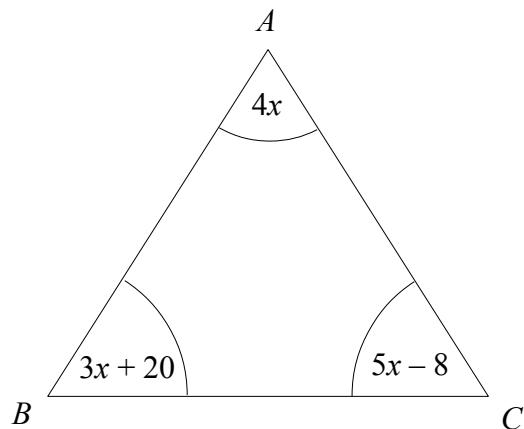
The angles in triangle ABC are given in degrees.

Prove that $AB = AC$.

(Total for Question 24 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS