Edexcel GCSE
Mathematics (Linear) – 1MA0

SYMMETRY

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

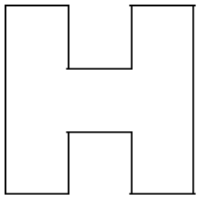
Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

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.

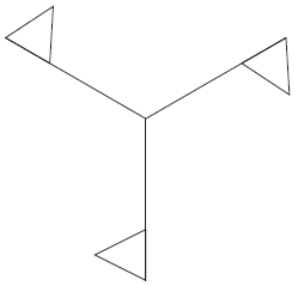
1. (a) On the shape, draw all the lines of symmetry.



(2)

The shape below has rotational symmetry.

(b) Write down the order of rotational symmetry.



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(1)

(Total 3 marks)

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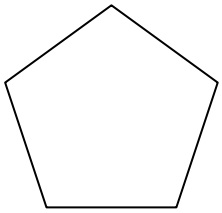
2. Here is a rectangle.

(a) Draw all the lines of symmetry of this rectangle.

(2)

Here is a regular pentagon.



(a) Write down the order of rotational symmetry of this regular pentagon.

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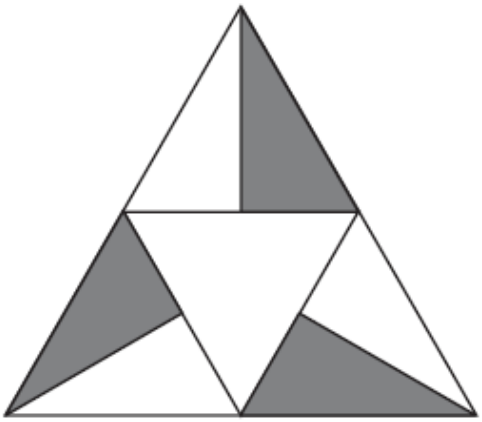
(1)

Here is a shape.



(b) Write down the order of rotational symmetry of this shape.

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(1)

(Total 4 marks)

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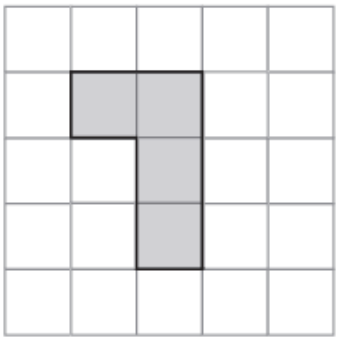
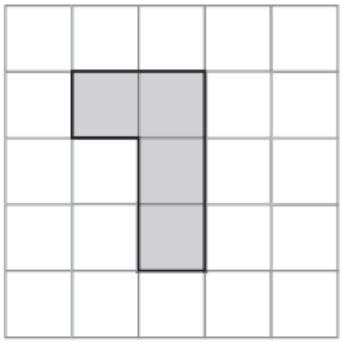
3. (a) Shade **one** more square to make a pattern with 1 line of symmetry.



(1)

(b) Shade **one** more square to make a pattern with rotational symmetry of order 2



(1)

(Total 2 marks)

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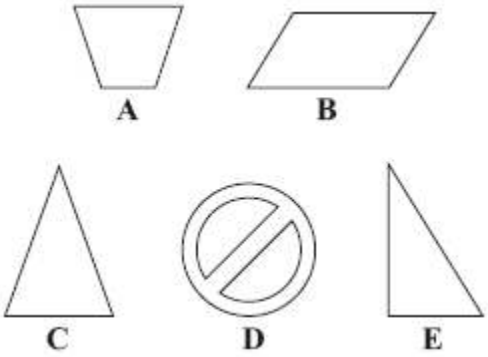
4. Here are five shapes.



Two of these shapes have only **one** line of symmetry.

(a) Write down the letter of each of these **two** shapes.

..... and .....
(2)

Two of these shapes have rotational symmetry of order 2

(b) Write down the letter of each of these **two** shapes.

..... and .....
(2)

(Total 4 marks)

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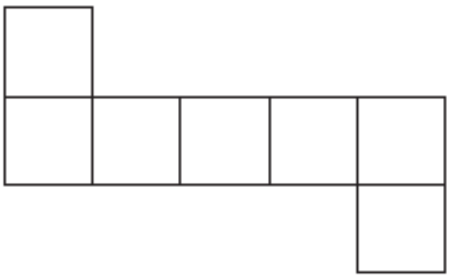
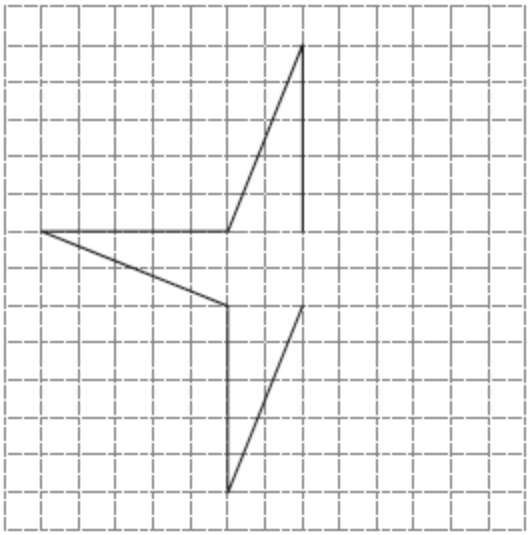
5. (a) This shape has rotational symmetry.



Mark with a cross (×) the centre of rotation.

(1)

(b)



Complete this shape so that it has rotational symmetry of order 4

(1)

(Total 2 marks)

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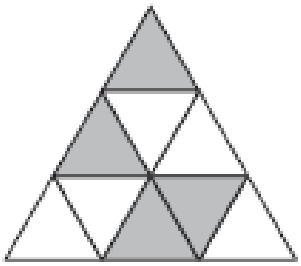
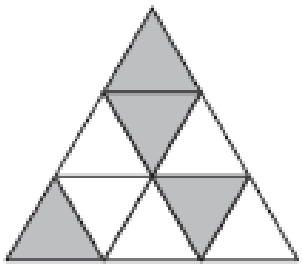
6. (a) Shade **two** more triangles to make a pattern with 1 line of symmetry.



(1)

(b) Shade **two** more triangles to make a pattern with rotational symmetry of order 3



(1)

(Total 2 marks)

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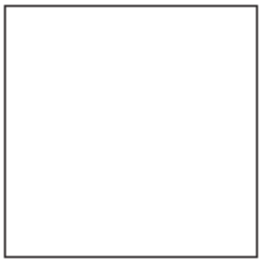
7. Here is a square.



(a) On the square, draw all the lines of symmetry.

(2)

Here is a rectangle.

(b) Write down the order of rotational symmetry of the rectangle.

.....

(1)

(Total 3marks)

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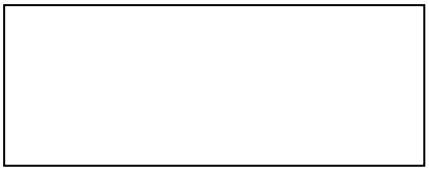
8. Here is a parallelogram.

(a) Write down the order of rotational symmetry of the parallelogram.

(1)

.....

Here is a rectangle.



(b) On the rectangle, draw all the lines of symmetry.

(1)

(Total 2 marks)

9. Here are four road signs.

A

B

C

D

Two of these road signs have one line of symmetry.

(a) Write down the letters of each of these **two** road signs.

..... and .....

(2)

Only **one** of these four road signs has rotational symmetry.

(b) (i) Write down the letter of this road sign. .....

(ii) Write down its order of rotational symmetry. ……

(2)

(Total 4 marks)

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10. Here is a shape.

(a) Draw all the lines of symmetry on this shape.

(2)

Here is a regular hexagon.

(b) Write down the order of rotational symmetry of this regular hexagon.

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(1)

(Total 3 marks)

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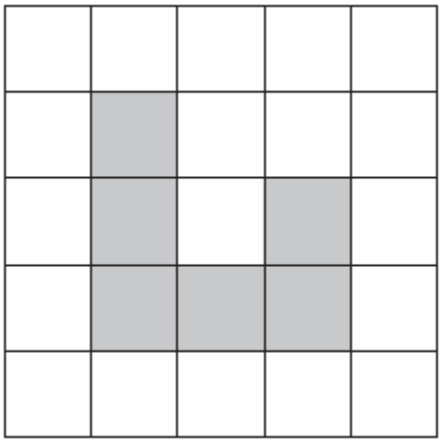
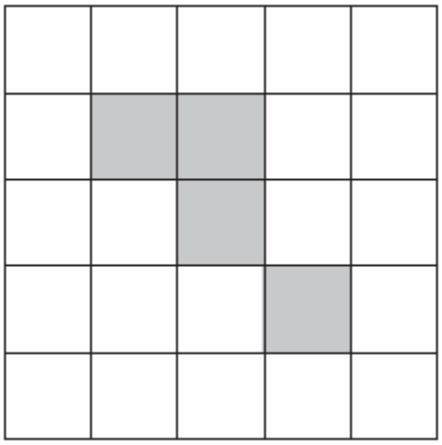
11. (a)



Shade **one** more square to make a pattern with 1 line of symmetry.

(1)

(b)



Shade **one** more square to make a pattern with rotational symmetry of order 2

(1)

(Total 2 marks)
