



**Bishops  
Online  
Tutoring**



Education Consultancy

# Edexcel GCSE Mathematics

## SYMMETRY

### Materials Required:

- Pen
- HB Pencil
- Ruler (in centimetres and millimetres)
- Protractor
- Compass

### Instructions:

- Use a black ink pen to answer all questions
- Fill your name in the section below
- Answer the questions in the spaces provided
- Show your working out for all answers

### Information:

- The marks allocated for each question are displayed within brackets – utilise this information to gauge the appropriate amount of time to dedicate to each question
- Questions marked with an asterisk (\*) will assess your written communication; be careful of spelling, punctuation and grammar with these questions

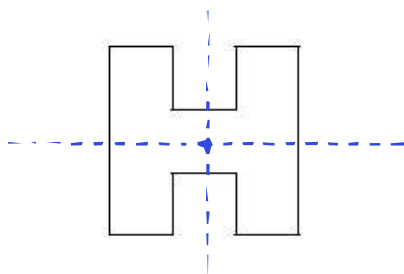
### Advice:

- Carefully read the question before attempting to answer it
- Be vary of time and try to answer every question
- If you have enough time in the end, go back and check your answers. A good way to check your answers is to retry the question with the hope of getting the same answer as before without looking at your working out from before

# NO CALCULATOR ALLOWED

**NAME:**

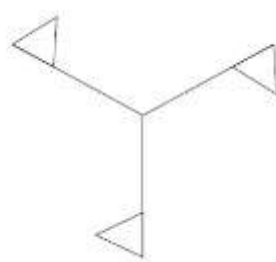
1. (a) On the shape, draw all the lines of symmetry.



(2)

The shape below has rotational symmetry.

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

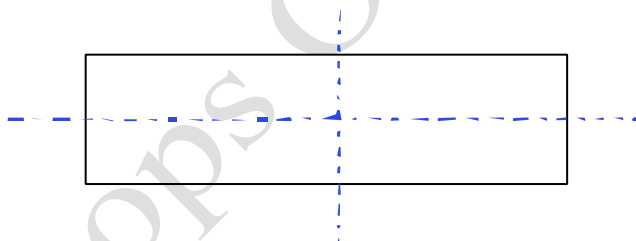


3

(1)

(Total 3 marks)

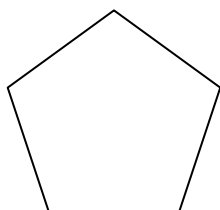
- 
2. Here is a rectangle.



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

(2)

Here is a regular pentagon.

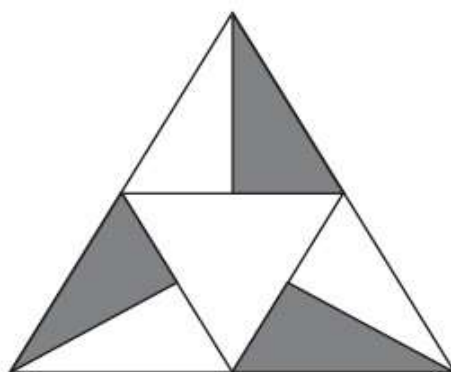


- (b) Write down the order of rotational symmetry of this regular pentagon.

5

(1)

Here is a shape.



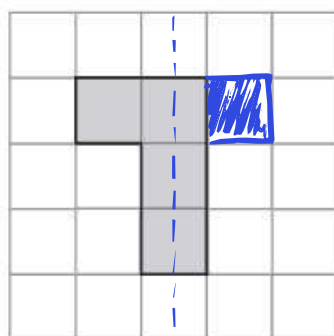
(c) Write down the order of rotational symmetry of this shape.

3

(1)

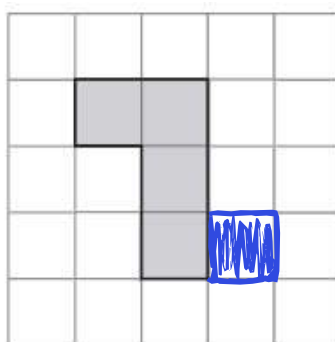
(Total 4 marks)

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



(1)

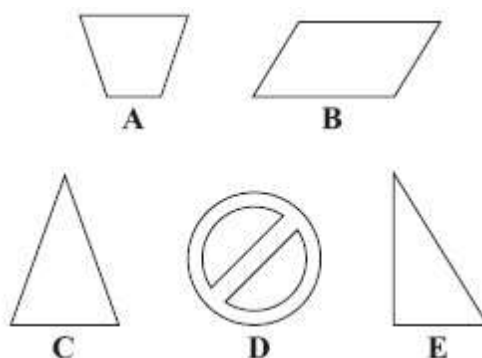
(b) Shade **one** more square to make a pattern with rotational symmetry of order 2



(1)

(Total 2 marks)

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.

A and C  
(2)

**Two** of these shapes have rotational symmetry of order 2

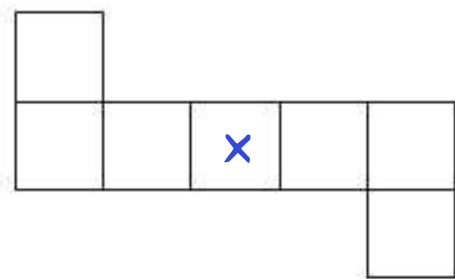
(b) Write down the letter of each of these **two** shapes.

B and D  
(2)

(Total 4 marks)

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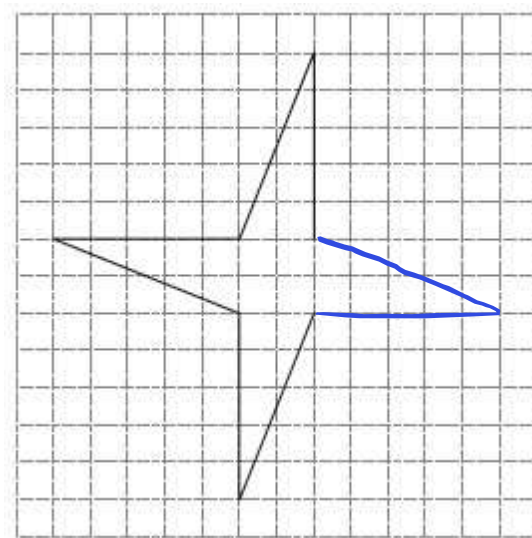
5. (a) This shape has rotational symmetry.



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

(1)

(b)

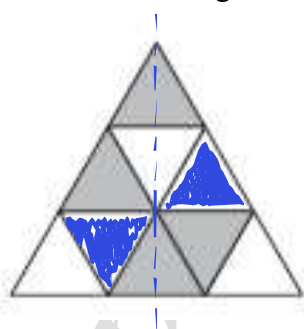


Complete this shape so that it has rotational symmetry of order 4

(1)

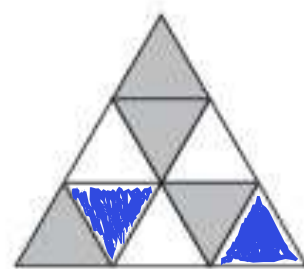
(Total 2 marks)

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



(1)

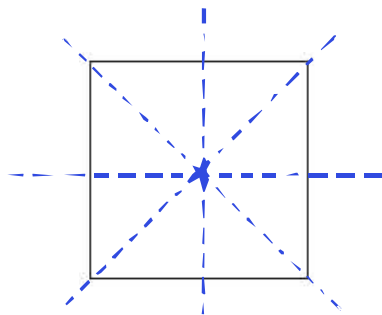
(b) Shade **two** more triangles to make a pattern with rotational symmetry of order 3



(1)

(Total 2 marks)

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.

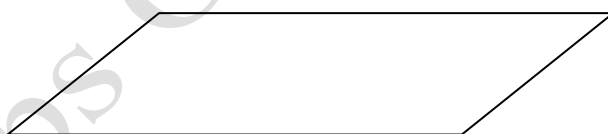
2

(1)

(Total 3 marks)

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8. Here is a parallelogram.

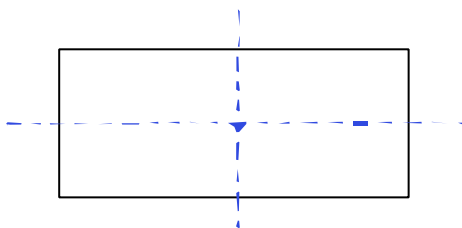


(a) Write down the order of rotational symmetry of the parallelogram.

(1)

2

Here is a rectangle.



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

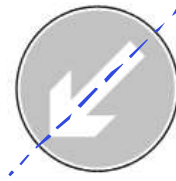
(1)

(Total 2 marks)

9. Here are four road signs.



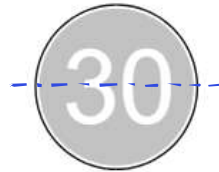
A



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.

.....**B**..... and .....**D**.....  
(2)

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

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

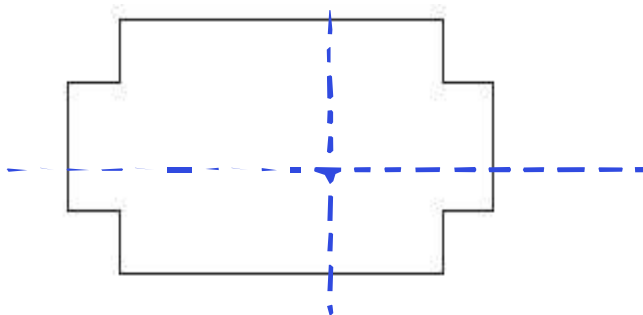
.....**A**.....

(ii) Write down its order of rotational symmetry.

.....**3**.....  
(2)

(Total 4 marks)

10. Here is a shape.



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

(2)

Here is a regular hexagon.



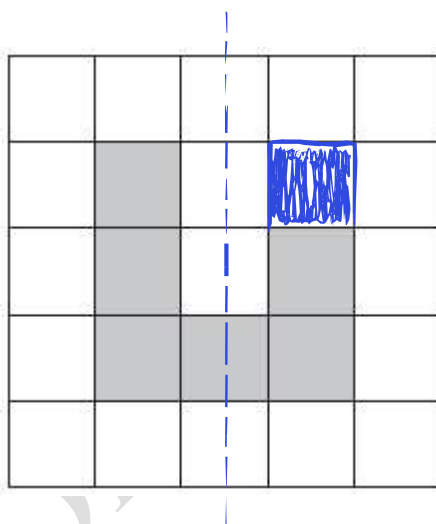
(b) Write down the order of rotational symmetry of this regular hexagon.

6

(1)

(Total 3 marks)

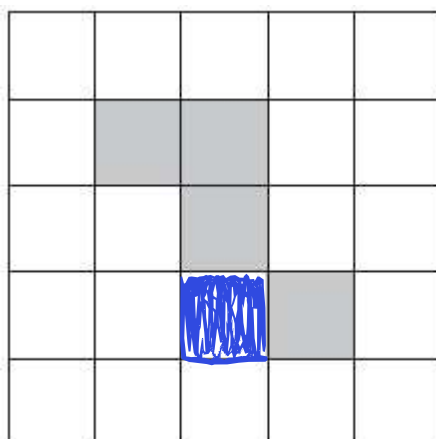
11. (a)



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)