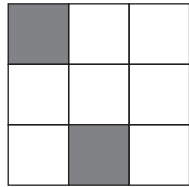


Name:

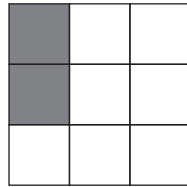
Section:

Symmetry Worksheet

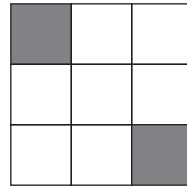
1 Sam has six square tiles labelled *A*, *B*, *C*, *D*, *E* and *F*.



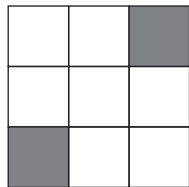
A



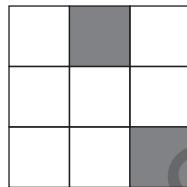
B



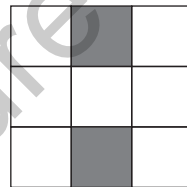
C



D

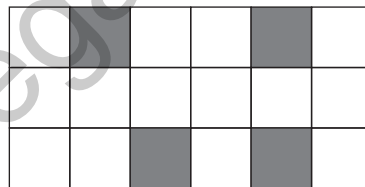


E



F

When Sam places tiles *E* and *F* side by side the resulting rectangle has no lines of symmetry and no rotational symmetry.



E

F

Write down the two tiles that Sam should place side by side to make a rectangle that has

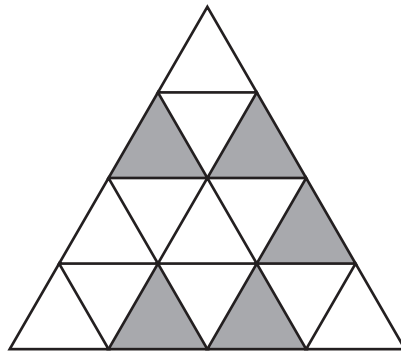
(a) one line of symmetry only,

..... [1]

(b) rotational symmetry of order 2.

..... [1]

2



Shade **one** more small triangle so that the shape has rotational symmetry of order 3.

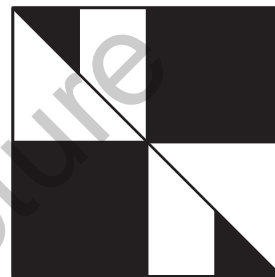
[1]

3 Complete the description of the symmetry for each shape.



..... lines of symmetry

Rotational symmetry of order

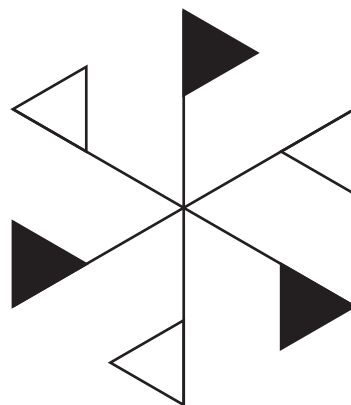


..... lines of symmetry

Rotational symmetry of order

[2]

4 (a)



Write down the order of rotational symmetry of this shape.

..... [1]

(b) Samuel describes a special quadrilateral.

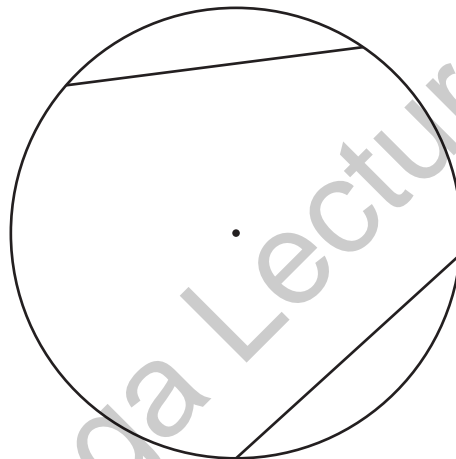
It has only one line of symmetry.
Its diagonals cross at right angles.

Write down the name of this special quadrilateral.

..... [1]

5 (a) The diagram shows a circle, its centre and two chords of equal length.
The diagram has one line of symmetry.

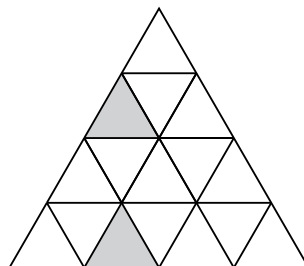
Draw this line of symmetry.



[1]

(b) In the diagram below, two small triangles are shaded.

Shade **one** more small triangle to give a diagram that has rotational symmetry of order 3.



[1]

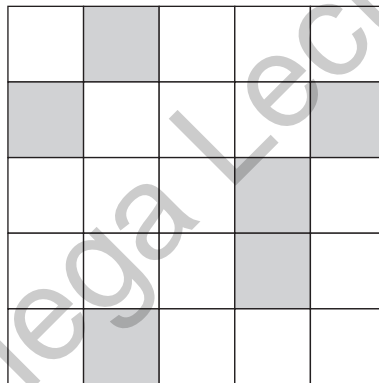
- 6 (a) The diagram shows **part** of a figure that has rotational symmetry of order 4 about the point O .
Complete the figure.



[1]

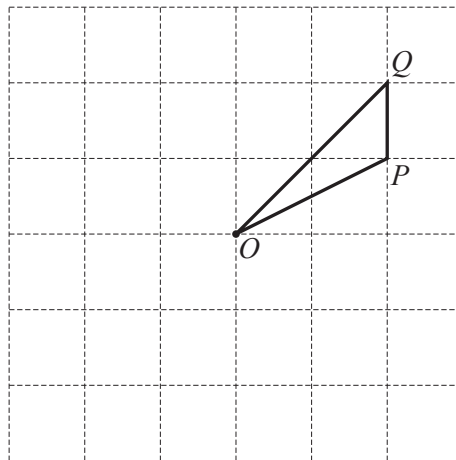
- (b) In the diagram, six small squares are shaded.

Shade **one** more small square to give a diagram that has exactly one line of symmetry.



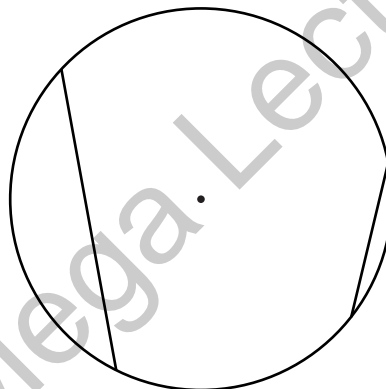
[1]

- 7 (a) Triangle OPQ is **part** of a figure that has rotational symmetry of order 2 about the point O .
Complete the figure.



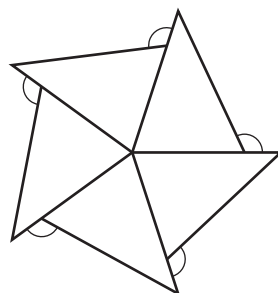
[1]

- (b) The diagram shows a circle, its centre, and two chords.
Add **one** chord, to give a diagram that has one line of symmetry.



[1]

8

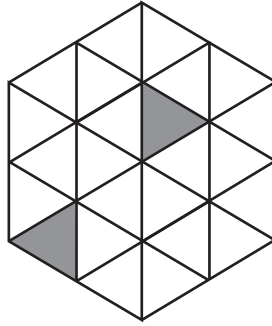


The diagram shows a figure made from five identical triangles.
The figure has rotational symmetry.

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

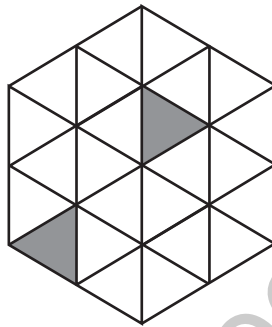
Answer [1]

- 9 (a) Shade **one** more small triangle in the shape below to make a pattern with one line of symmetry.

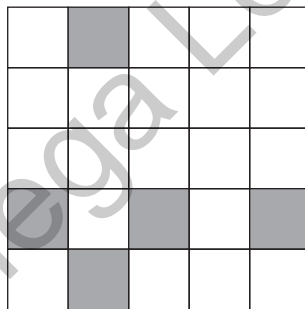


[1]

- (b) Shade **two** more small triangles in the shape below to make a pattern with rotational symmetry of order 2.



- 10 (a)



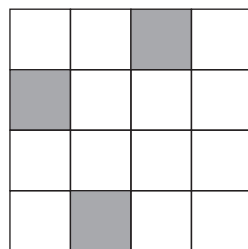
[1]

In the diagram, five small squares are shaded.

Shade **one more** small square, so that the diagram has exactly one line of symmetry.

[1]

- (b)



In the diagram, three small squares are shaded.

Shade **one more** small square, so that the diagram has rotational symmetry of order 4.

[1]

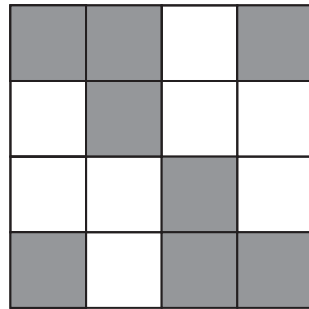
11 (a) Complete this description.

A rectangle has rotational symmetry of order

and lines of symmetry.

[1]

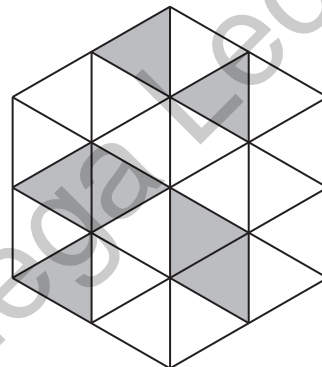
(b) Shade 4 more small squares in the shape below to make a pattern with rotational symmetry of order 4.



12 (a) In the diagram, seven small triangles are shaded.

[1]

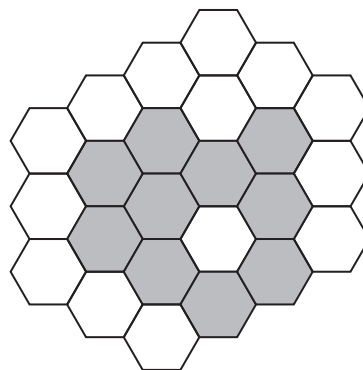
Shade two more small triangles, so that the diagram will then have rotational symmetry of order 3.



[1]

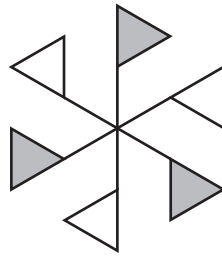
(b) In the diagram, ten small hexagons are shaded.

Shade one more small hexagon, so that the diagram will then have exactly one line of symmetry.



[1]

13 (a) Complete the description of the pattern below.

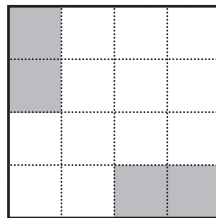


The pattern has rotational symmetry of order

and lines of symmetry.

[1]

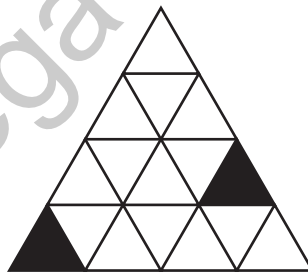
(b) Shade in **two** more small squares in this shape to make a pattern with exactly 2 lines of symmetry.



[1]

14 (a) In the diagram, two small triangles are shaded.

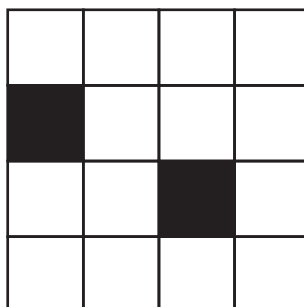
Shade one more small triangle, so that the diagram will then have one line of symmetry.



[1]

(b) In the diagram, two small squares are shaded.

Shade two more small squares, so that the diagram will then have rotational symmetry of order 2.



[1]

15 (a) On the grid below, draw a quadrilateral with

no rotational symmetry
and just 1 line of symmetry.



[1]

(b) Complete this description.

A parallelogram has rotational symmetry of order

and lines of symmetry.

[1]

Mega Lecture