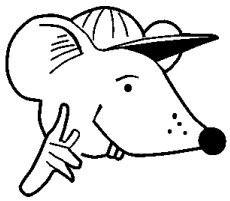
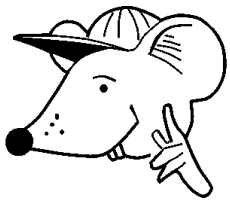
Back to Menu



MATHEMATICS



N.S. Yr. 5 P.107

Recognise reflective symmetry in 2-D shapes.
Reflections and translations.

Equipment

Paper, squared or patterned paper, pencil, ruler, circle drawing tool, scissors, mirror.

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Concepts

Children should know and be able to read, write and use the following words:

Mirror line, line of symmetry, line symmetry, symmetrical, reflect, reflection, translation, axis of symmetry, reflective symmetry.

Children should be able to draw lines of symmetry on regular polygons and know that the number of lines of symmetry on a regular polygon is equal to the number of sides. Eg a regular hexagon has six sides and six lines of symmetry.

They should be able to test for symmetry using a mirror and by folding.

Children should be able to sketch the reflection of a simple shape in a mirror line where some of the edges of the shape are not parallel nor perpendicular to the mirror line.

They should be able to complete a pattern using reflections in two mirror lines at right angles to each other.

They should understand the concept of a translation (a simple slide) and be able to draw a shape after it has been translated on a set of co-ordinates.

They should be able to translate a simple shape and its reflection along a line to make a pattern.

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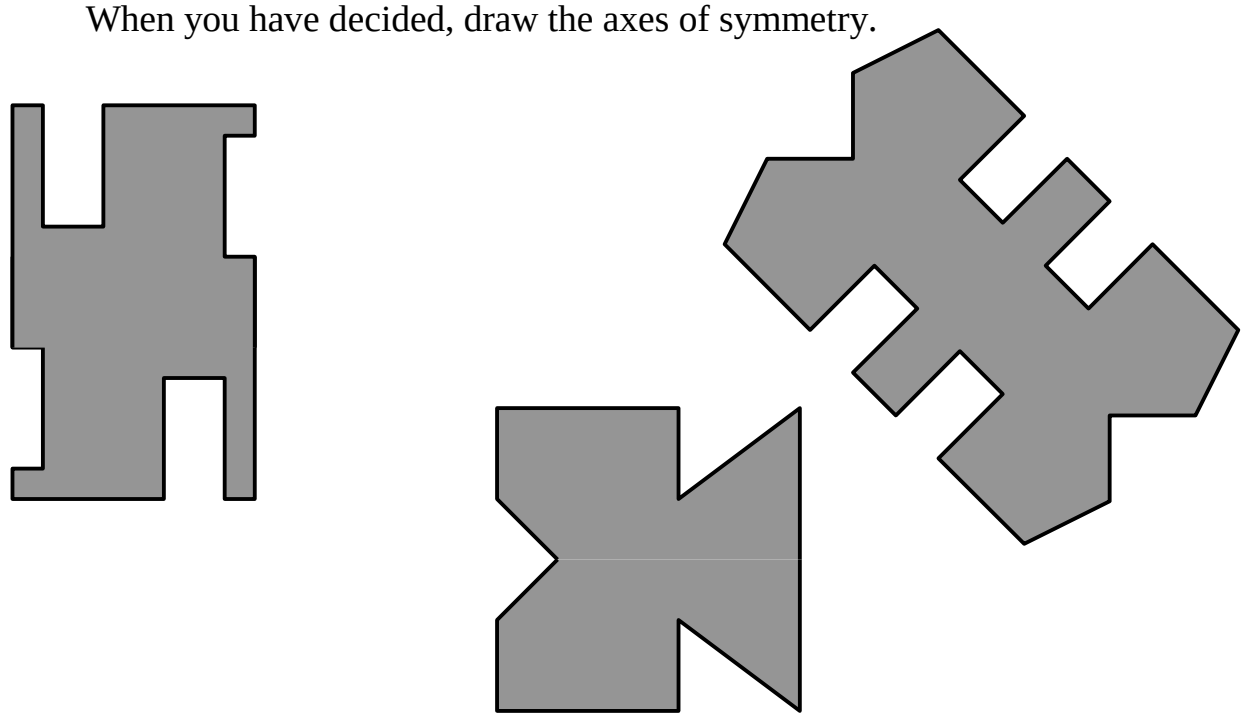
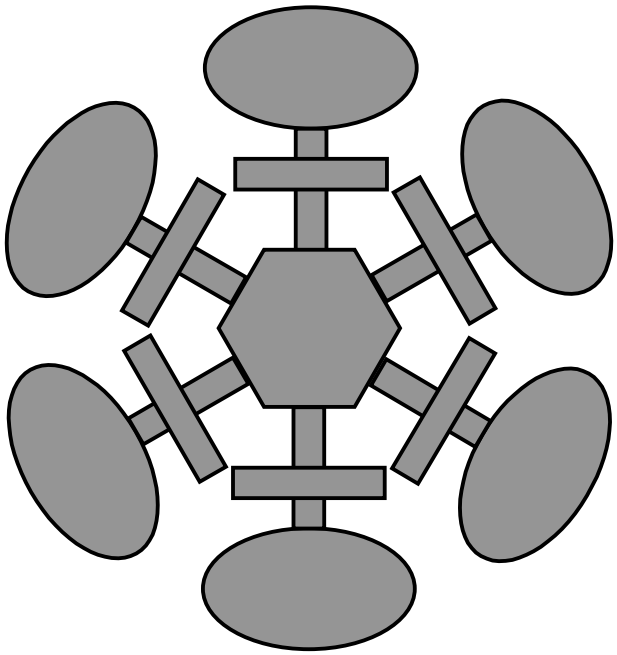
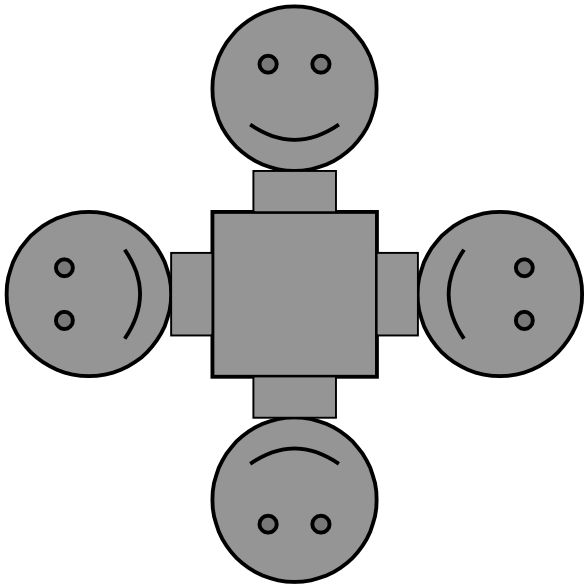
1. Cut out these shapes and test to see how many axes of symmetry they have by folding the shapes or by using a mirror.
When you have decided, draw the axes of symmetry.







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1. Draw a polygon of your own choice in each box.
Cut out the polygons and see how many axes of symmetry they have either by folding the shapes or by using a mirror.
Draw the axes of symmetry.

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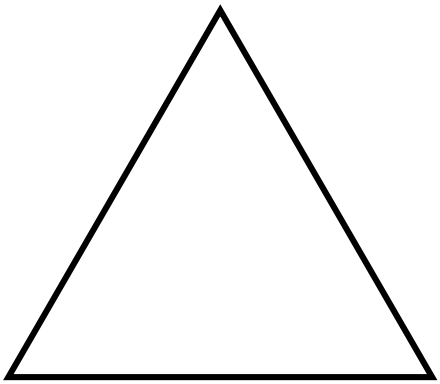
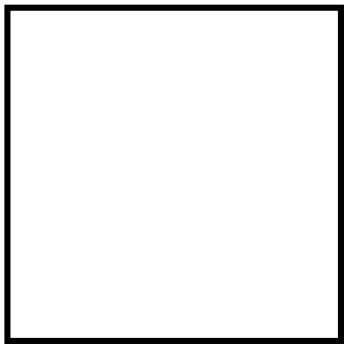
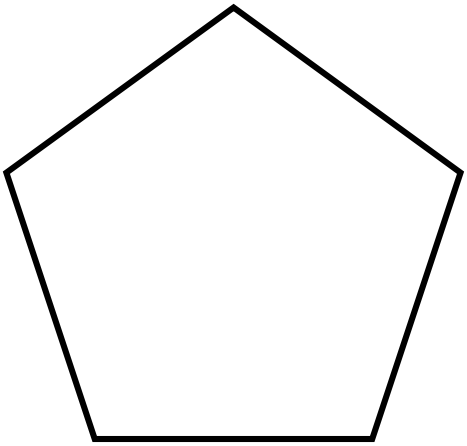
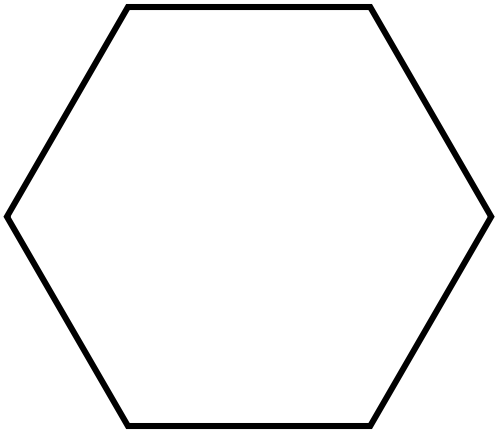
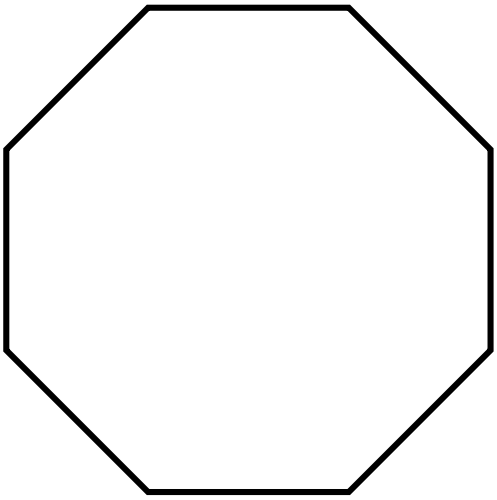
1. Investigate the number of axes of symmetry in these regular polygons and complete the table. What do you notice?











Name of Shape	Number of Axes of Symmetry

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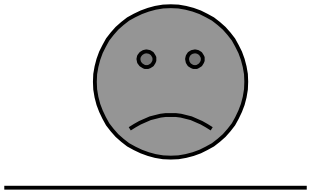
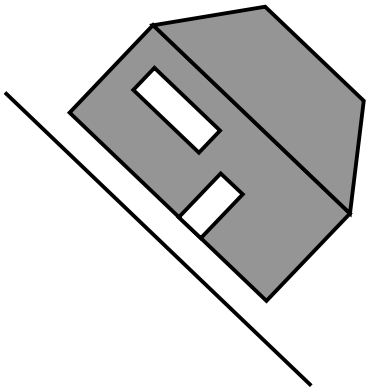
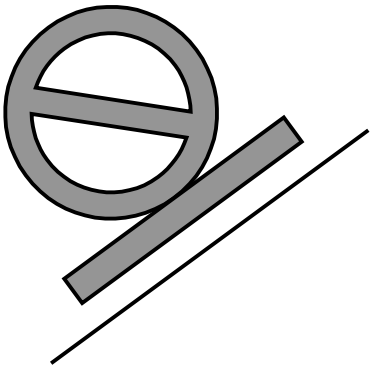
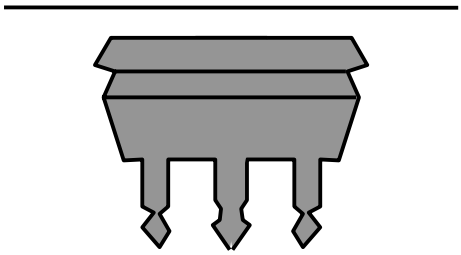
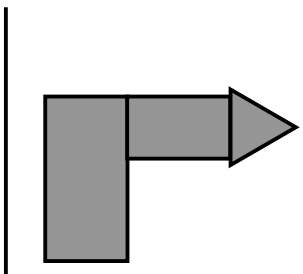
1. Imagine that these shapes are reflected in the mirror lines and sketch the reflections.











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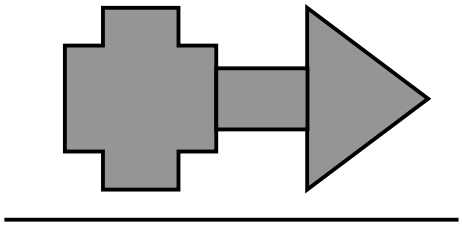

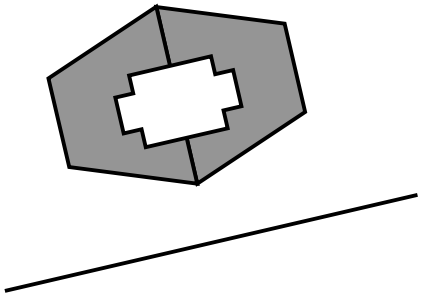

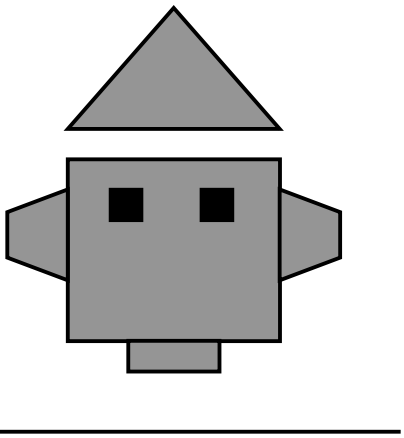

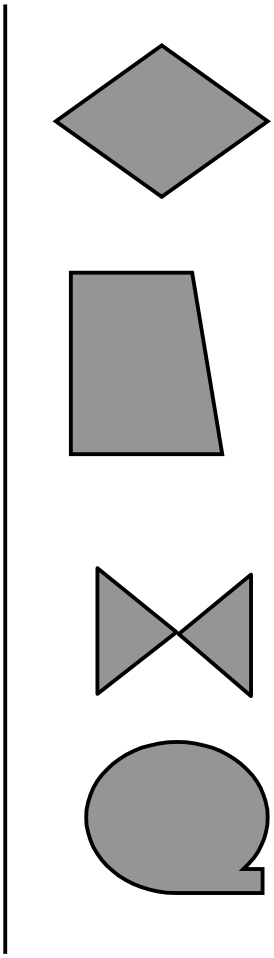

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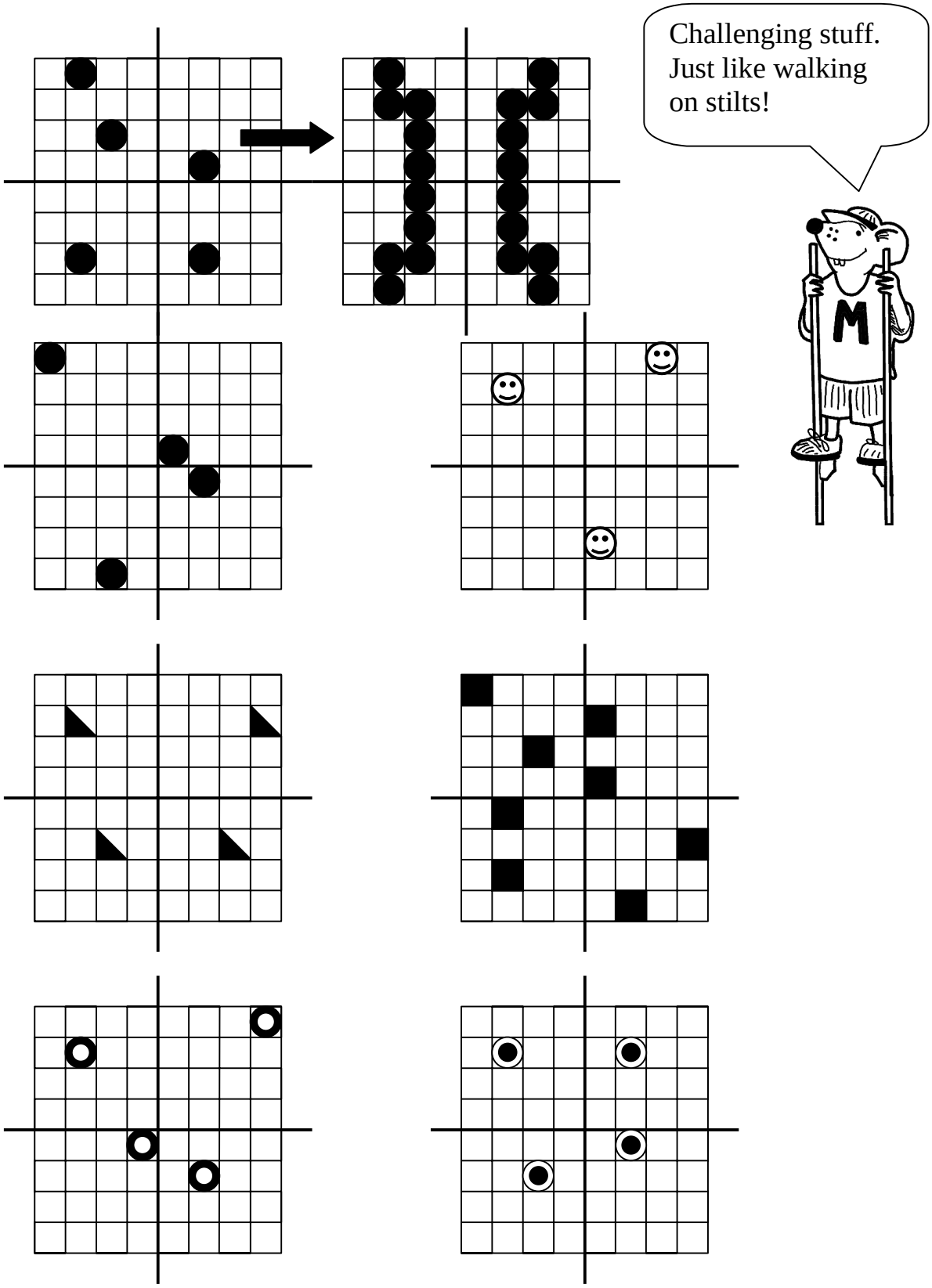
1. Here are some patterns on square grids. Reflect all the shapes in both lines of symmetry to complete the pattern. The first is done for you.



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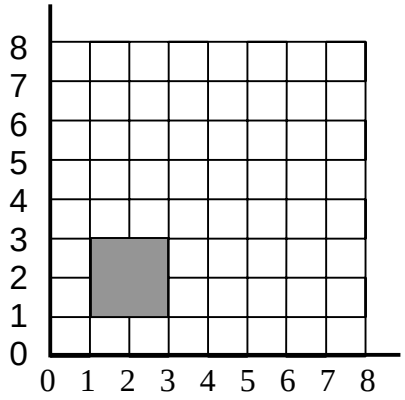
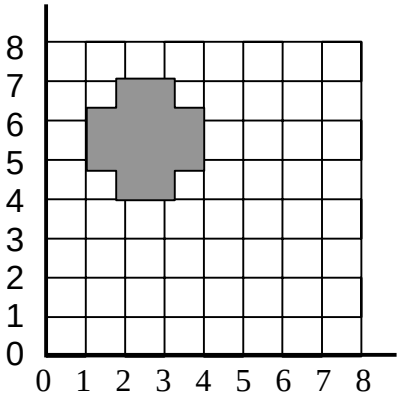
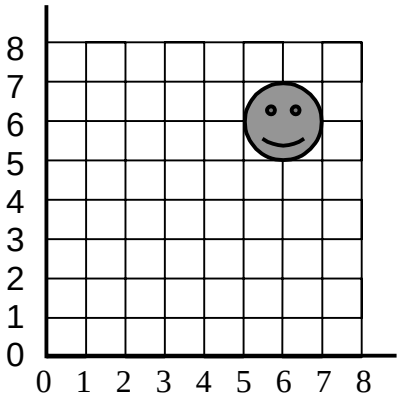
1. Draw the shapes after they have been translated:



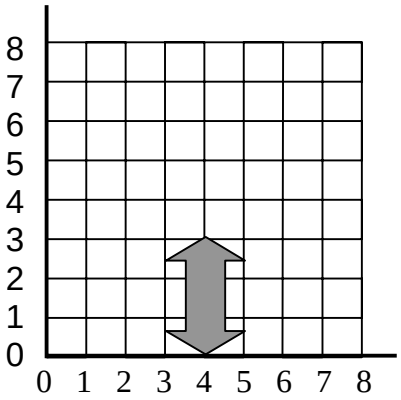
Translate **3** units to the **right**.



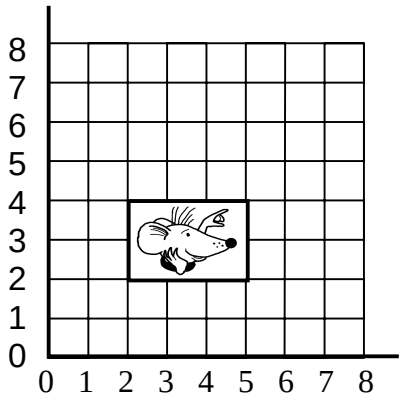
Translate **4** units **down**.



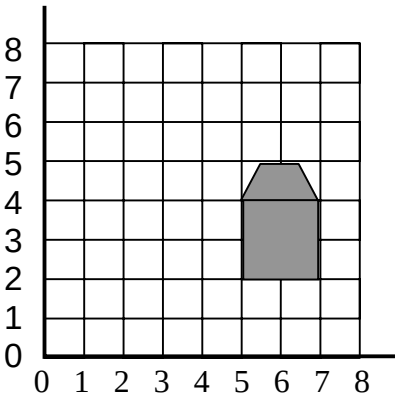
Translate **5** units to the **left**.



Translate **4** units **up**.



Translate **4** units **up**
and 3 units to the **right**.



Translate **5** units to the **left**
and **1** unit **up**.

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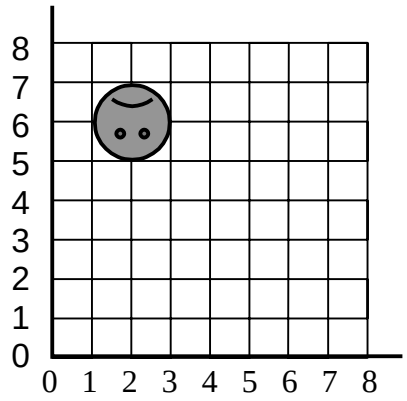
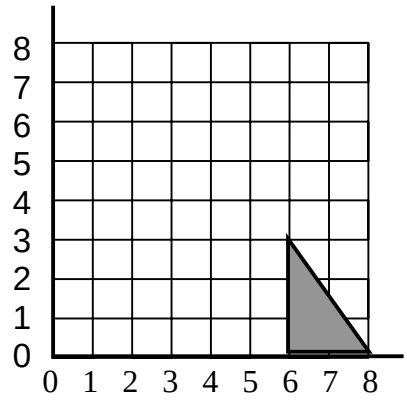
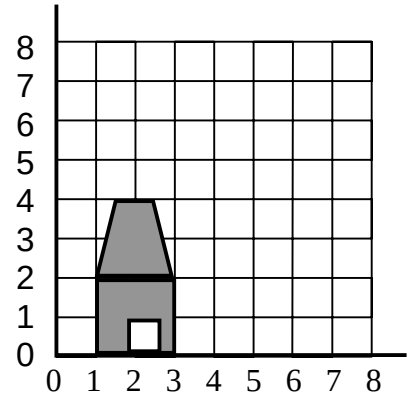
1. Draw the shapes after they have been translated:



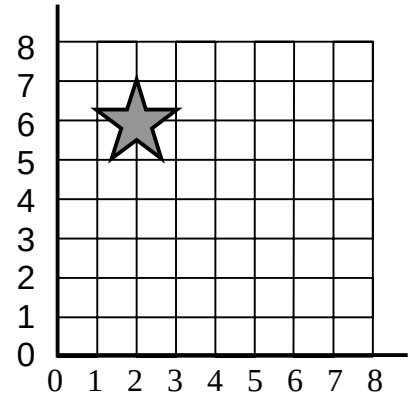
Translate **4** units to the **right** and **3** units **down**.



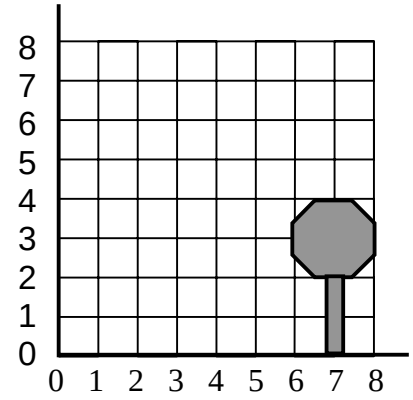
Translate **5** units to the **left** and **4** units **up**.



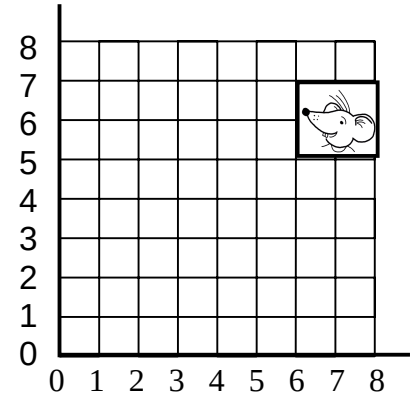
Translate **5** units to the **right** and **3** units **up**.



Translate **2** units to the **right** and **4** units **down**.



Translate **4** units to the left and **3** units **up**.



Translate **5** units to the **left** and **2** units **down**.

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Answers

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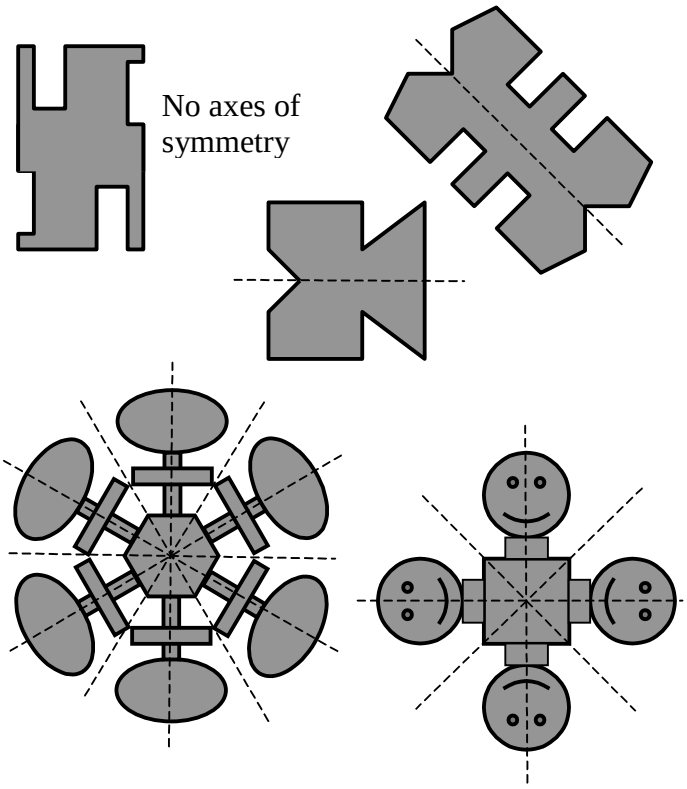

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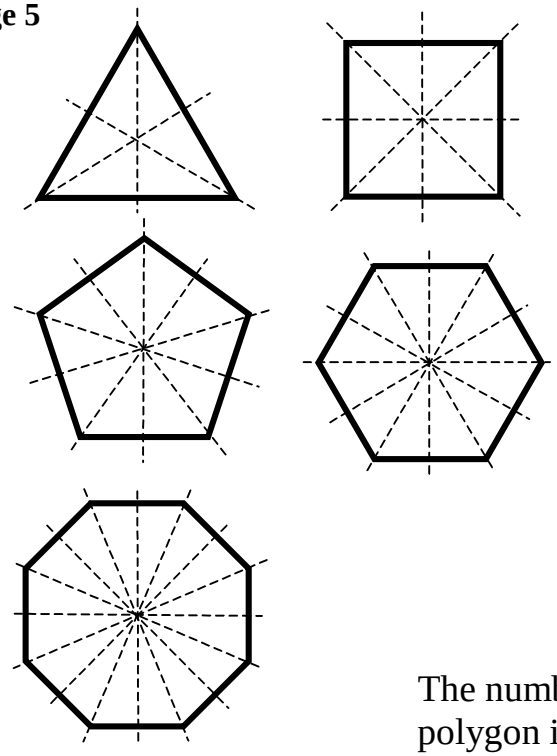

Name of Shape	Number of Axes of Symmetry
Equilateral triangle	3
Square	4
Regular pentagon	5
Regular hexagon	6
Regular octagon	8

The number of axes of symmetry on a regular polygon is equal to the number of sides.
You may also notice that all the axes of symmetry in a shape meet in one point at the centre.

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Answers (Contd)

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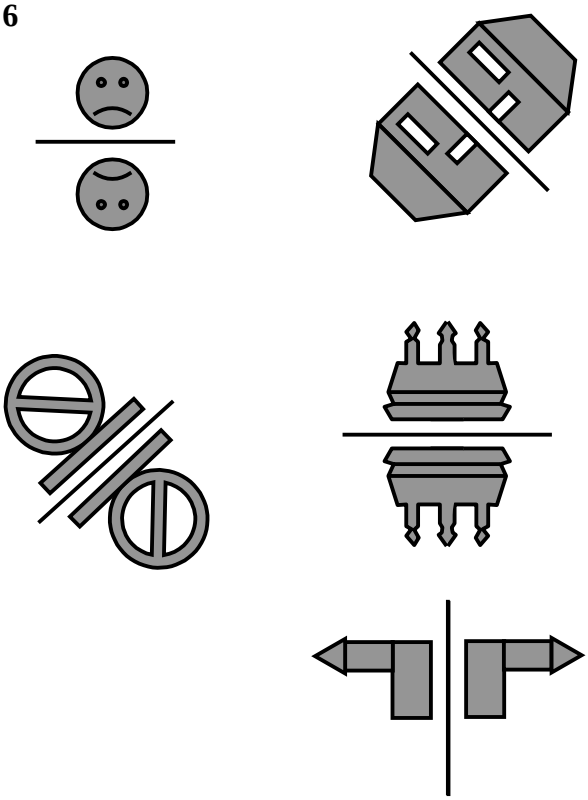

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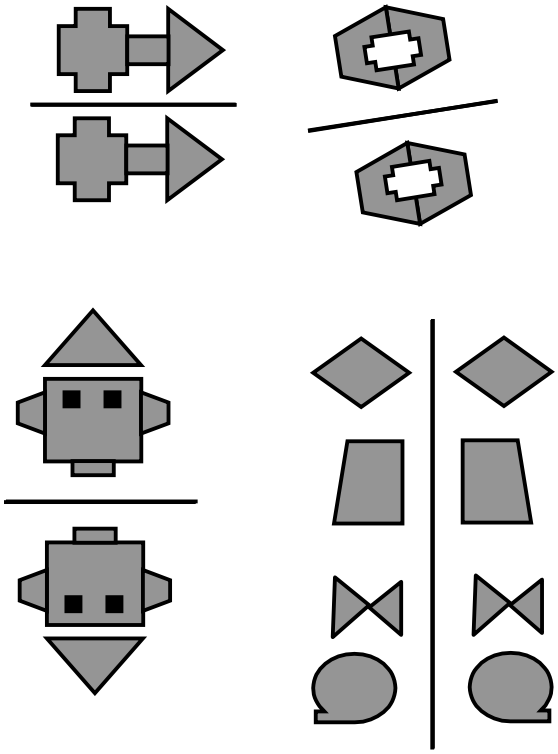

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Answers (Contd)

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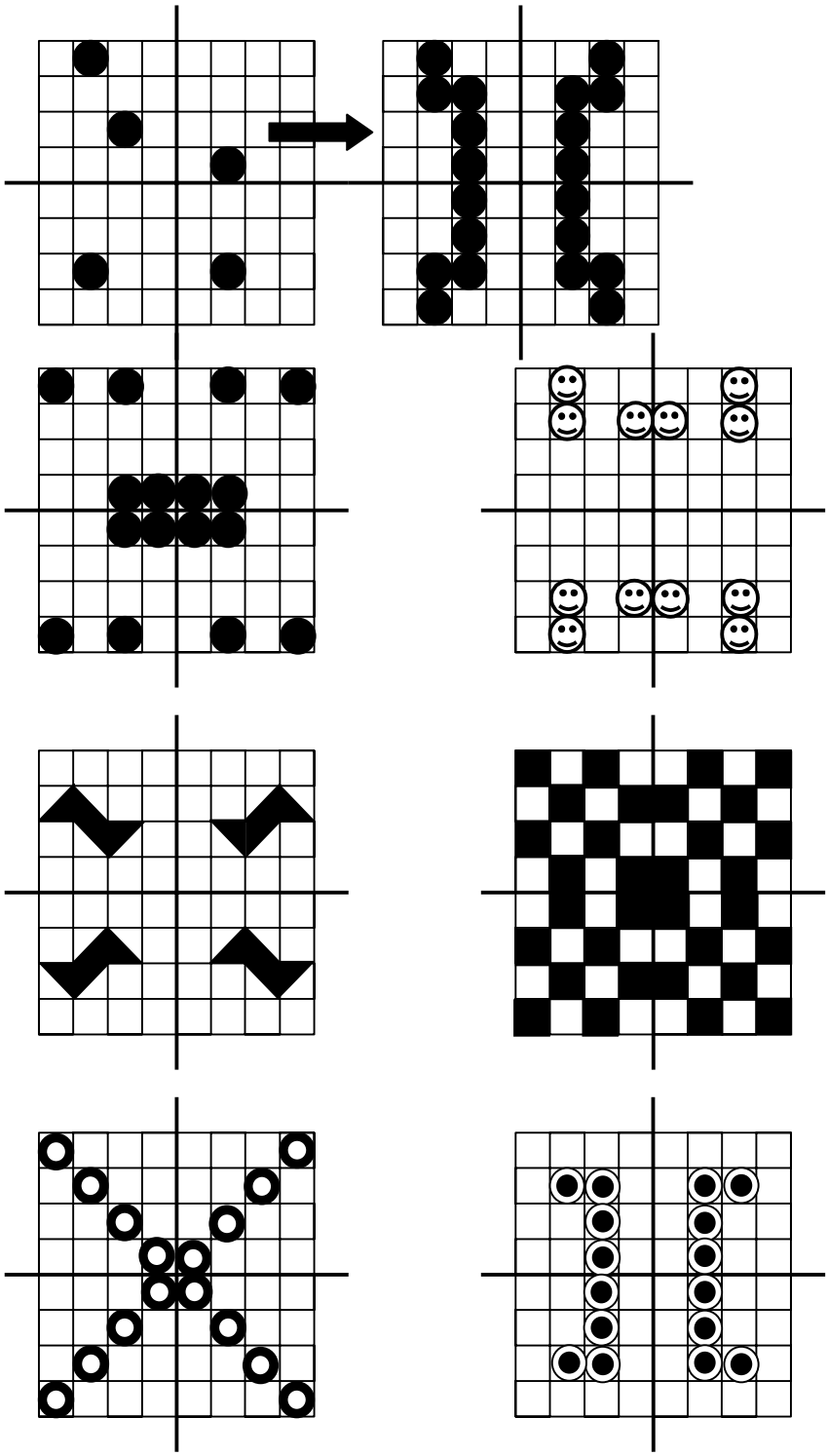

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Answers (Contd)

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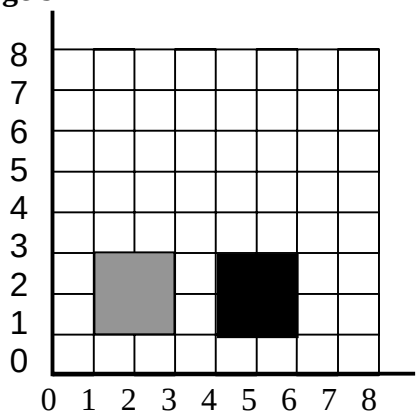

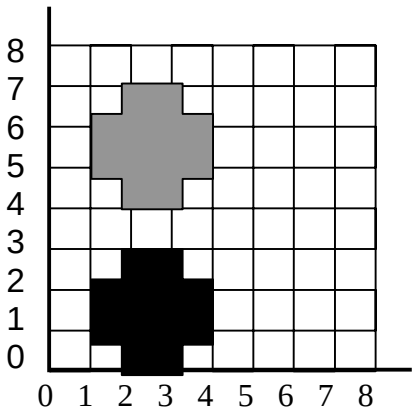

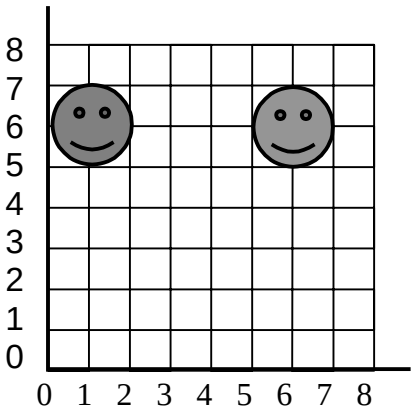

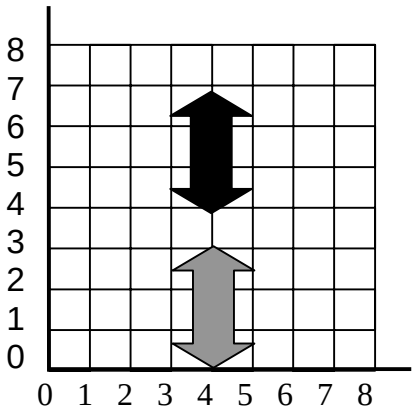

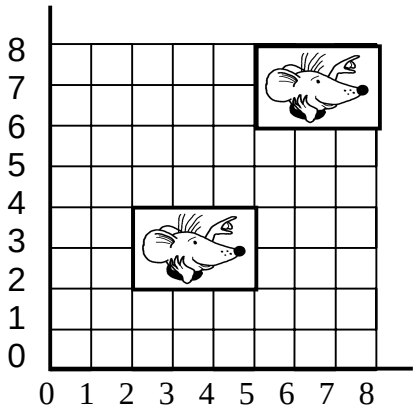

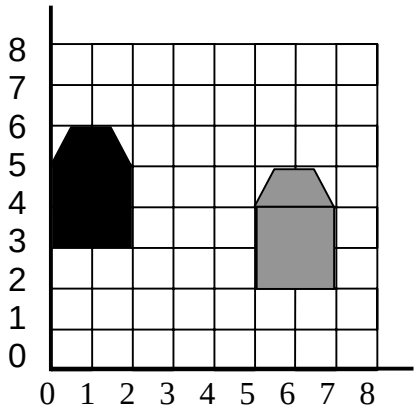

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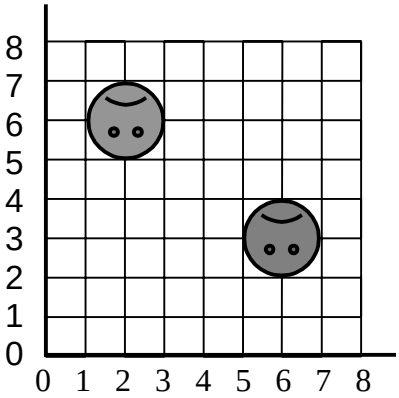
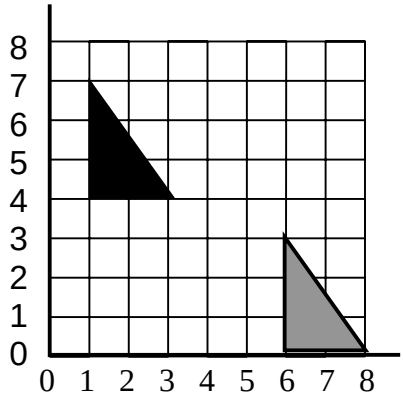
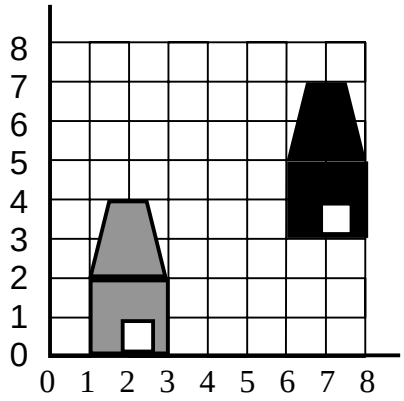
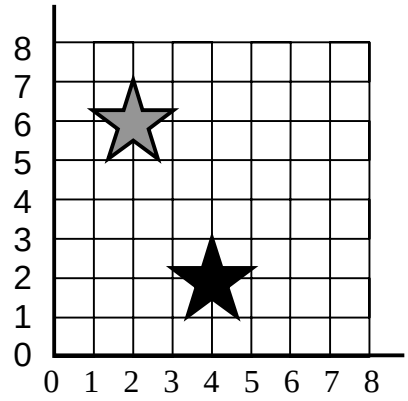
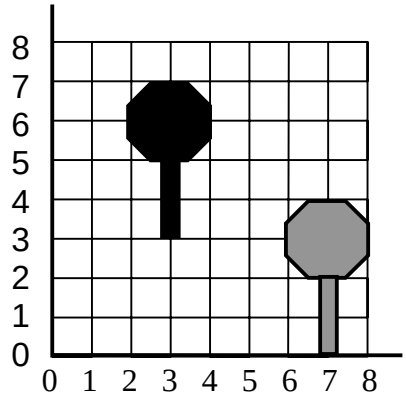
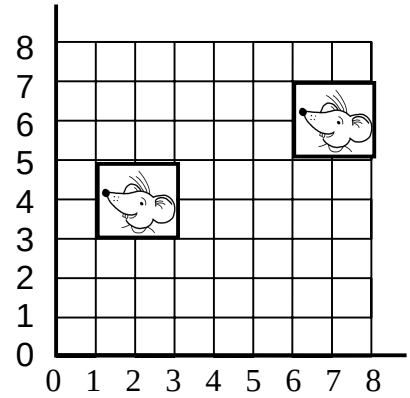
Answers (Contd)

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