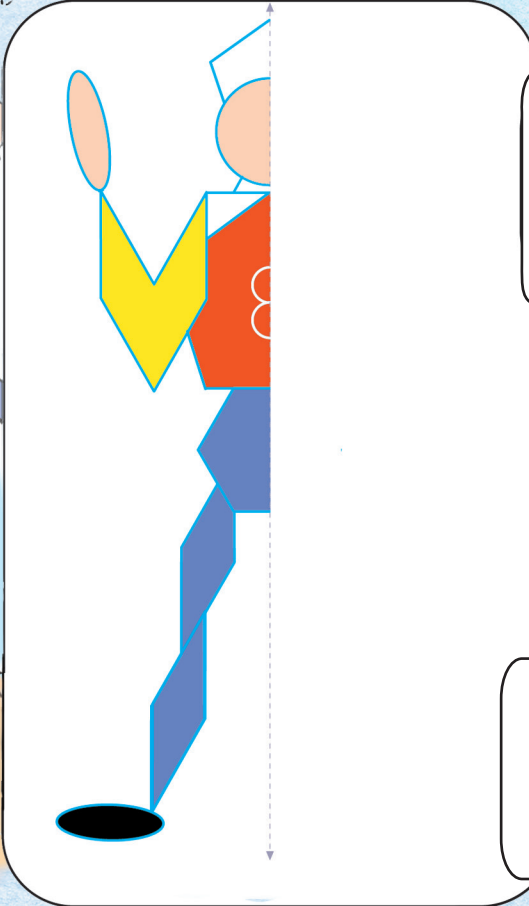


Mr Symmetrical

Use Mathomat to become familiar with symmetry in shapes.

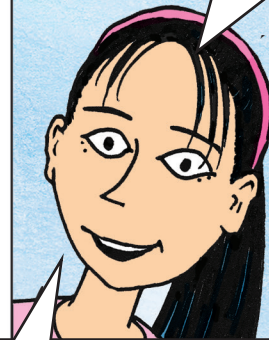


I work in the 'Pizza Bar'. Food is very symmetrical because pizzas are circles. Circles have so many lines of symmetry you can't count them!



Rob has found his symmetry!

Use the centre line and the long edge of your Mathomat to make perpendicular guides.



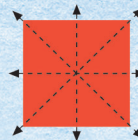
Some of the shapes overlap. You will have to rotate your Mathomat to match some of shapes.

His other half

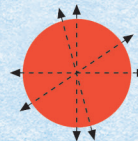
Anna has drawn a Mathomat version of Rob. Can you complete his other half?

Line symmetry: if one half of a 2-D shape can be reflected across a mirror line to match its other half, that shape is said to have bi-lateral or line symmetry.

This is sometimes called a symmetry operation and it is a certain form of the isometry of the plane called reflection that was used in the previous investigation



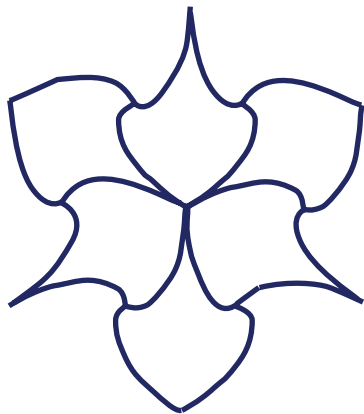
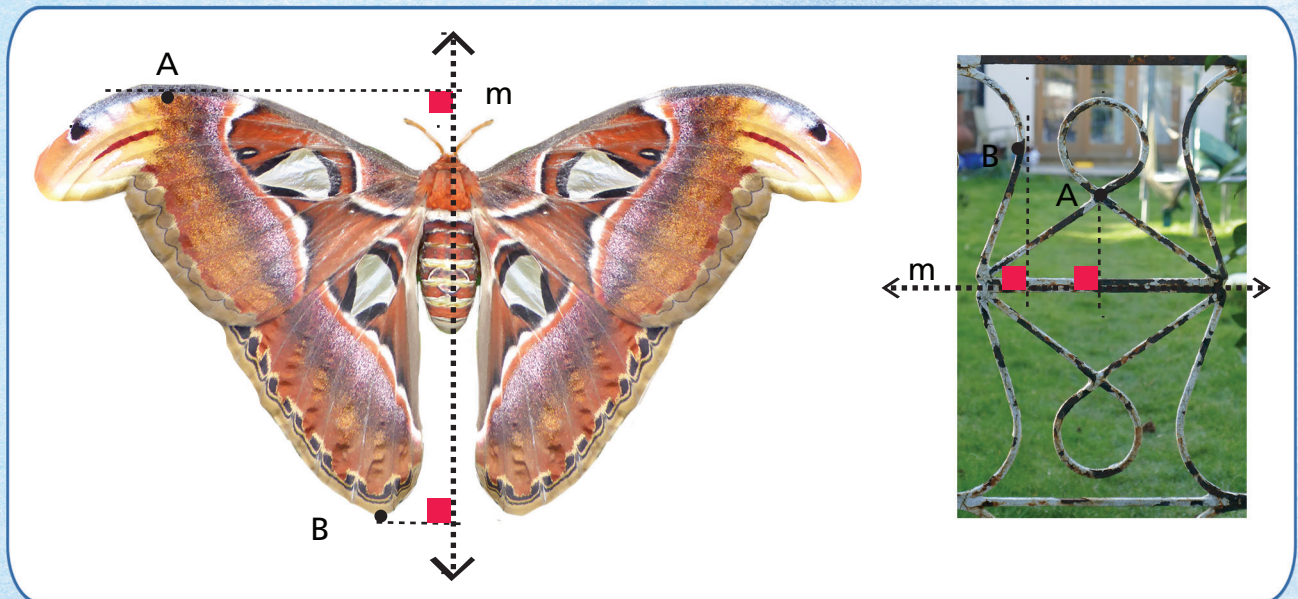
A square has 4 axes of symmetry.



A circle has an infinite number of axes of symmetry. Here are a few.

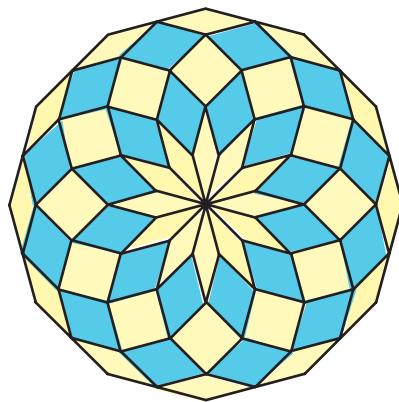
There are many beautiful examples of bi-lateral symmetry in the natural world and the built environment created by humans.

Use your Mathomat to find the matching points A' and B' on the other side of the mirror lines in the photographs of the moth and wrought iron gate.



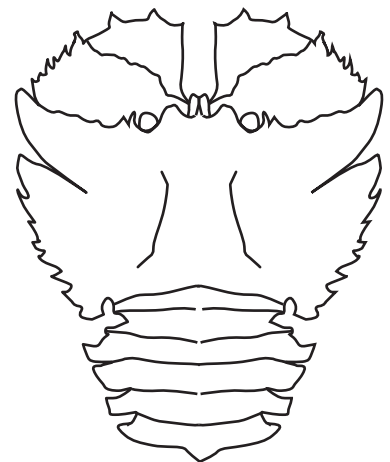
lines of symmetry

number of sides



lines of symmetry

number of sides



lines of symmetry

Use your Mathomat to draw in all of the lines of symmetry in each of the three objects here. Write in the total number of lines of symmetry in the space provided for each, and for the first two also write down the number of sides for each object.

This activity illustrates line symmetry. See 'Symmetrical Spin' and 'More rotational spin' in MAC (activities 5.4 and 5.5).