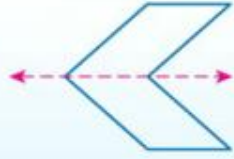


Goals:
You will identify line and rotational symmetries in two-dimensional figures.

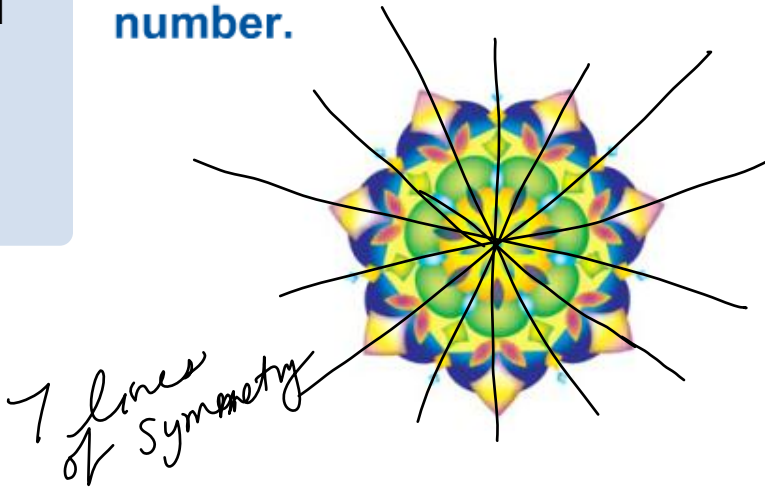
You will identify plane and axis symmetries in three-dimensional figures.

9.5 Symmetry

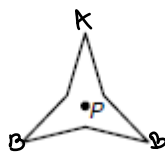
A figure in the plane has **line symmetry** (or *reflection symmetry*) if the figure can be mapped onto itself by a reflection in a line, called a **line of symmetry** (or *axis of symmetry*).



A. KALEIDOSCOPES State whether the object appears to have line symmetry. Write *yes* or *no*. If so, draw all lines of symmetry, and state their number.



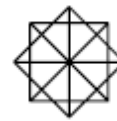
Rotational symmetry: objects that can be rotated less than 360 degrees around a point so that the image and preimage are indistinguishable.



C C
B A A C

Order: 3

Magnitude: $\frac{360^\circ}{3} = 120^\circ$

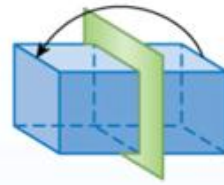


Order: 8

Magnitude: $\frac{360}{8} = 45^\circ$

Plane Symmetry

A three-dimensional figure has **plane symmetry** if the figure can be mapped onto itself by a reflection in a plane.



Axis Symmetry

A three-dimensional figure has **axis symmetry** if the figure can be mapped onto itself by a rotation between 0° and 360° in a line.

