

Symmetries of Regular Polygons

A Solidify Understanding Task

A line that reflects a figure onto itself is called a **line of symmetry**.

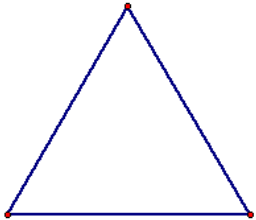
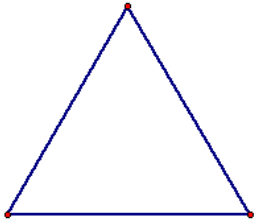
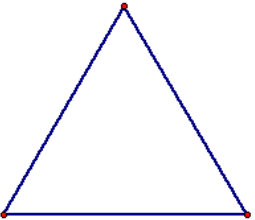
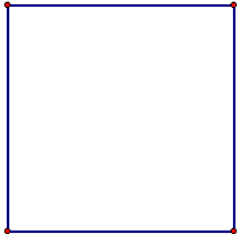
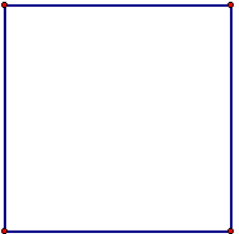
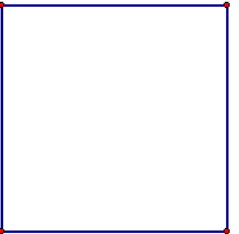
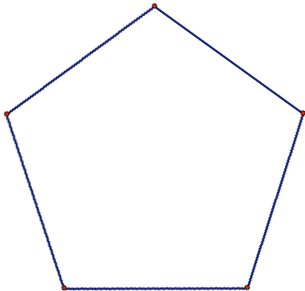
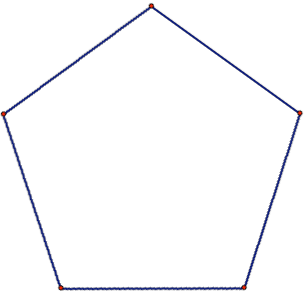
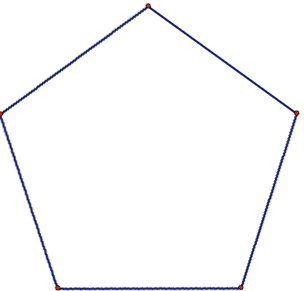
A figure that can be carried onto itself by a rotation is said to have **rotational symmetry**.

A **diagonal of a polygon** is any line segment that connects non-consecutive vertices of the polygon.

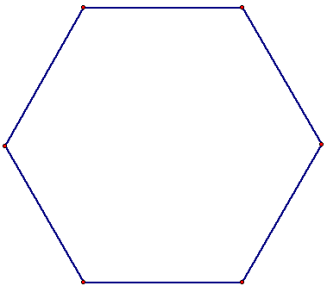
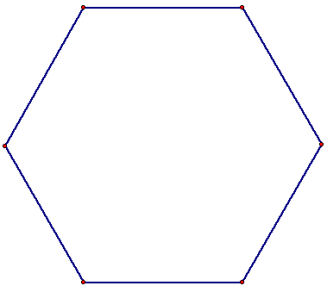
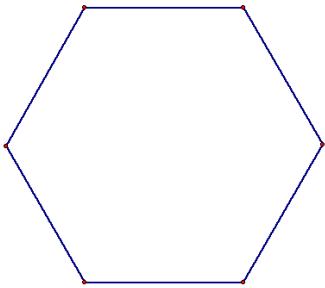
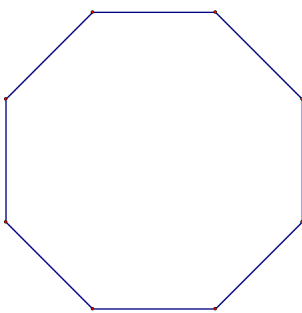
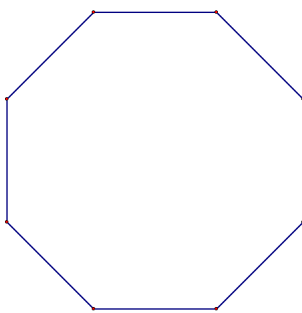
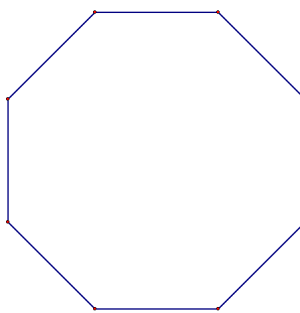
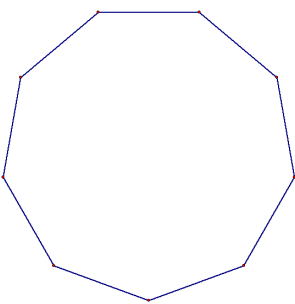
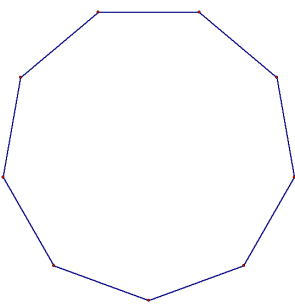
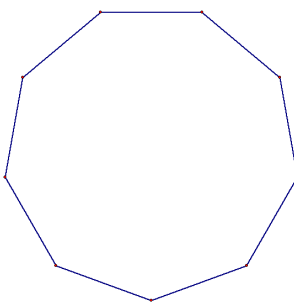


© 2012 www.flickr.com/photos/tamburix

For each of the following regular polygons, describe the rotations and reflections that carry it onto itself: (be as specific as possible in your descriptions, such as specifying the angle of rotation)

	Lines of Reflection	Points and Degrees of Rotation	Diagonals
Equilateral Triangle	 <p>How Many?</p>	 <p>Amount Rotated:</p>	 <p>How Many?</p>
Square	 <p>How Many?</p>	 <p>Amount Rotated:</p>	 <p>How Many?</p>
Regular Pentagon	 <p>How Many?</p>	 <p>Amount Rotated:</p>	 <p>How Many?</p>



Regular Hexagon	 How Many?	 Amount Rotated:	 How Many?
Regular Octagon	 How Many?	 Amount Rotated:	 How Many?
Regular Nonagon	 How Many?	 Amount Rotated:	 How Many?

What patterns do you notice in terms of the number of the lines of symmetry in a regular polygon?

What patterns do you notice in terms of the angles of rotation when describing the rotational symmetry in a regular polygon?

