Symmetry of Stars and Polygons Exploration

Objective: Learn about reflectional and rotational symmetry of simple figures

1. Here are two of the mirror lines for a square. Find the other 2.

2. Find all the mirror lines for the regular pentagon (5-gon), the regular hexagon (6-gon) and the star below.

3. Draw the mirror lines for an equilateral triangle, and for a regular 8-gon (stop sign shape). How many mirror lines do you think there are in a regular 7-gon? In a 10-gon? Give a formula for the number of mirror lines in a regular polygon with n sides.
4. There are plenty of shapes that do not have reflectional symmetry. Draw some.

5. What are the order of rotation and the angle of rotation for the following shapes?

![Shapes](image)

6. Draw a shape which has rotation symmetry but no reflection symmetry.

*Hand in: This sheet with answers to all questions.*