

Assignment 2 (/10)

- Due 9/17/2015

1. **Symmetries** (/10)

A symmetry is a rigid motion (sliding, flipping, rotating) of a figure so that in its new position it looks exactly the same as in the original. Find all the symmetries of a square.

Make sure to explain exactly how you came to your answer; e.g., did you use visuals?

2. **EXTRA CREDIT : More Symmetries!** (/2)

Let P be a regular polygon of n sides. How many symmetries does P have. How many are reflections and how many are rotations?

Again, do not just give an answer. Explain why you think you are correct.

If you want to learn more about this topic, consider looking into dihedral groups and group theory in general. I'd be more than happy to explain such topics.