

Chapter 4 Test Prep

1. Always/Sometimes/Never for properties of transformations
 - a. i.e. “A reflection changes the shape of the figure/preimage.” OR “A dilation rotates the figure/preimage.” etc.
2. Given a figure, draw ALL lines of symmetry.
3. Given a figure, determine if it has rotational symmetry. If so, find the angle of rotational symmetry.
4. Given a figure in the coordinate plane use the given rule to...
 - a. Translate the figure
 - i. $(x, y) \rightarrow (x + h, y + k)$
 - b. Rotate the figure about the origin
 - i. $90^\circ: (x, y) \rightarrow (-y, x)$
 - ii. $180^\circ: (x, y) \rightarrow (-x, -y)$
 - iii. $270^\circ: (x, y) \rightarrow (y, -x)$
 - iv. Remember the rotation is counterclockwise unless otherwise stated!
 - c. Reflect the figure in the line
 - i. x-axis: $(x, y) \rightarrow (x, -y)$
 - ii. y-axis: $(x, y) \rightarrow (-x, y)$
 - iii. $y = x: (x, y) \rightarrow (y, x)$
 - iv. $y = -x: (x, y) \rightarrow (-y, -x)$
 - v. Any other horizontal/vertical lines: count the number of units the preimage points are away from the line of reflection. Count the same on the other side of the line.
 - d. Dilate the figure with a scale factor (k) centered at the origin
 - i. $(x, y) \rightarrow (kx, ky)$
 - e. Perform similarity transformations
 - i. Combination of a dilation and other rigid motions above
5. Use a compass and a straightedge to construct dilations.

****You may use trace paper on the exam. If you want to use it, I will provide it for you!**