Geometry Unit 1 Transformations **Name:**_____

Day 11: Symmetry Notes **Date:**_____ **Hour:** ____

A figure has ***symmetry*** if there is an isometry that maps the figure onto itself. If the isometry is a reflection, then the figure has ***reflectional symmetry***. One half of the figure is the mirror image of its other half. If the isometry is a rotation, then the figure has ***rotational symmetry***.

Example1: Draw all lines of ***reflectional*** symmetry, if any, for the following capital letters.

a. I b. W c. T d. X e. B

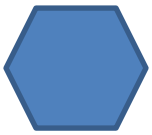
Example 2: Do any of the letters in Example 1 have ***rotational*** symmetry? If so, give an angle of rotation.

Example 3: A nut holds a bolt in place. Some have square faces, like the top view shown in the diagram. Tell whether the nut has ***rotational*** symmetry and/or ***reflectional*** symmetry about a line.

If it has rotational symmetry, then what is the angle of rotation?

Example 4: Does the figure have ***rotational*** symmetry? If so, state the angle of rotation.

a. 

b. 

c. 

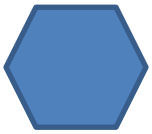
d. 

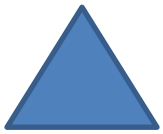
e. 

f. 

Example 5: Does the figure have ***reflectional*** symmetry about a line? How many lines of symmetry does each shape have? Sketch the lines of symmetry, if any.

a. 

b. 

c. 

d. 

e. 

f. 

Homework: pages 664 – 666 #1 – 12 all, 19, 20, 25 – 32 all, 51, 52