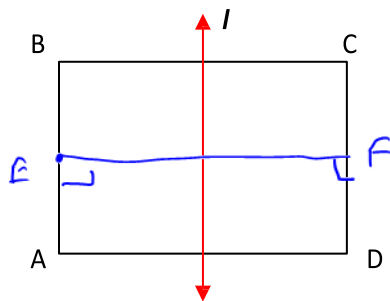Math 1312
Section 2.6
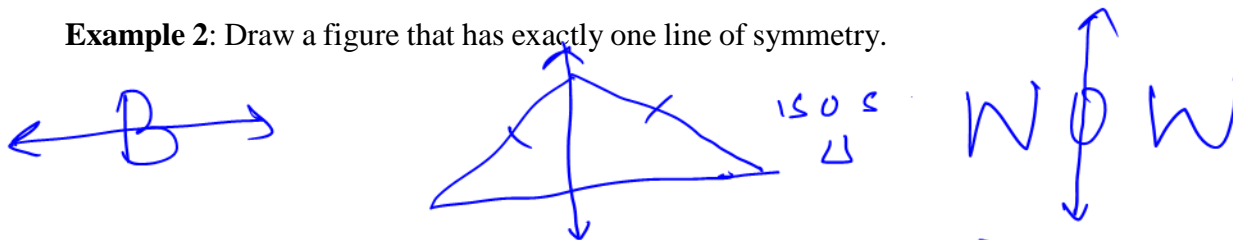Symmetry and Transformations

Definition:

A figure has **symmetry with respect to a line _l_** if for every point A on the figure, there is a second point B on the figure for which _l_ is the _perpendicular_ _bisector_ of $\overline{AB}$.
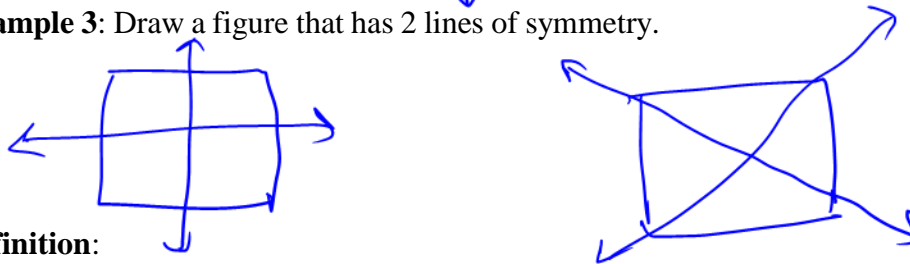
Example 1:

B   C

E   F   E & F are called
                  corresponding pts

A   D

Example 2: Draw a figure that has exactly one line of symmetry.
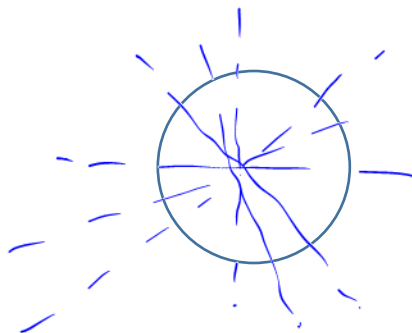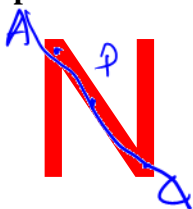
B   isos △   W φ W

Example 3: Draw a figure that has 2 lines of symmetry.

Definition:

A figure has **symmetry with respect to point P** if for every point A on the figure, there is a second point C for which P is the midpoint of $\overline{AC}$

Example 4:

A N P Q   J
                 No point
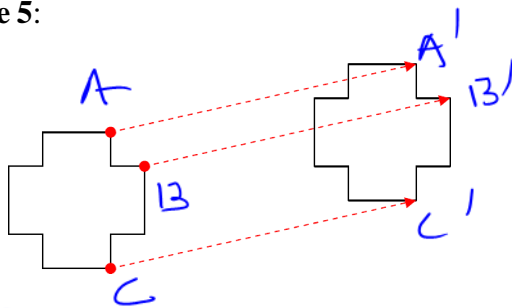   of symmetry

Definition:

Two figures are ___Congruent___ if one can be moved so that it exactly overlaps

the other.

Transformation involves moving an object from its original position to a new position.
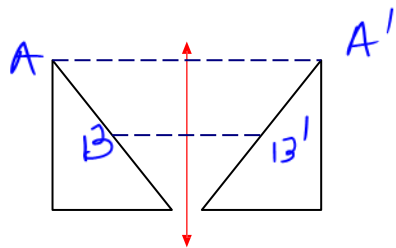
Types of transformations

1. ___Translation___ involves "sliding" the object from one position to another.

Example 5:

2. ___Reflection___ involves "flipping" the object over a line called the line of reflection.

Example 6:

3. ___Rotation___ involves "turning" the object about a point called the center of rotation.

Example 7: