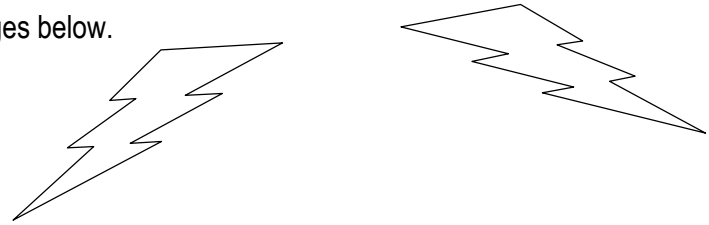
3.5

Name (print first and last) _____ **Per**_____ **Date:** 10/10 due 10/11

3.5 Rigid Transformations: Rotations **Geometry Regents 2013-2014 Ms. Lomac**

SLO: I can rotate figures and critique the rotations of others.

(1) ☐ Construct the line of reflection for the images below.



(2) ☐ From lesson 3.3, we determined that to perform a specific rotation, we need to know the _____, _____, and _____ of the rotation.

(3) ☐ To perform rotations, lets look at each part of a rotation separately.

☐ (a) CENTER: Show all of the images that can be made by rotating point P around the center of rotation O.

P

O

☐ (b) When you are showing ALL of the possible images of point P, does the direction of the rotation matter?_____

Why/why not? _____

☐ (c) MEASURE (ANGLE): Let's be more specific. On the diagram in part (a), find point Q such that it is the image of point P under a rotation of the angle measure below.

1st we can _____

_____

2nd we can _____

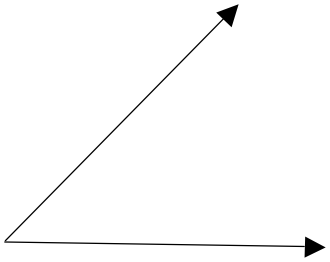
_____

3rd we can _____

_____

4th there is/are ____ point(s) we can construct because _____

_____



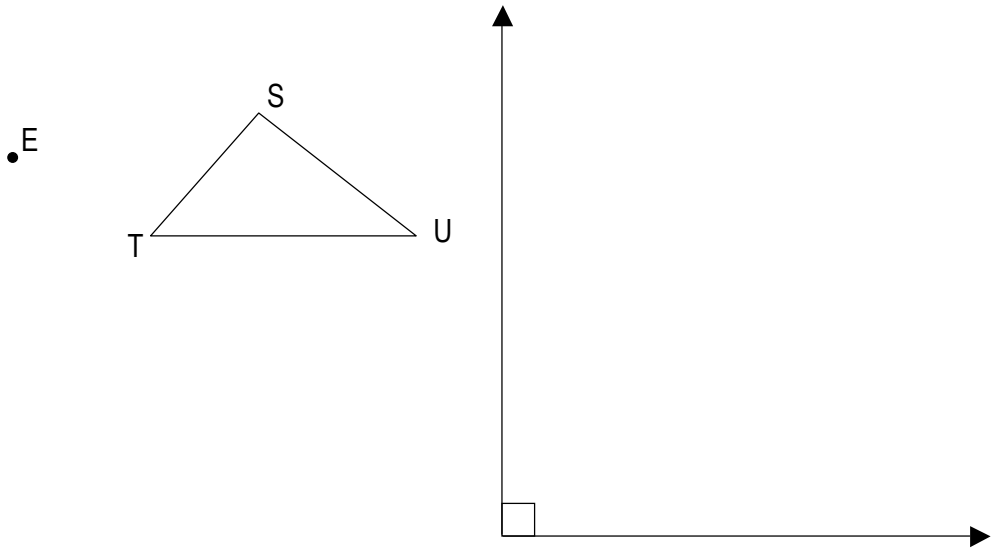
☐ (d) DIRECTION: Let's be even more specific. Label the points Q_1 and Q_2. Circle the words to make each sentence correct.

Q_1 is a clockwise/counterclockwise rotation which means it is positive/negative.

Q_2 is a clockwise/counterclockwise rotation which means it is positive/negative.

3.5

(4) ☐ Use the process you outlined in problem 3(c) to rotate triangle STU –90° around point E. Label the image S'T'U'.



(5) ☐ For the diagram below,

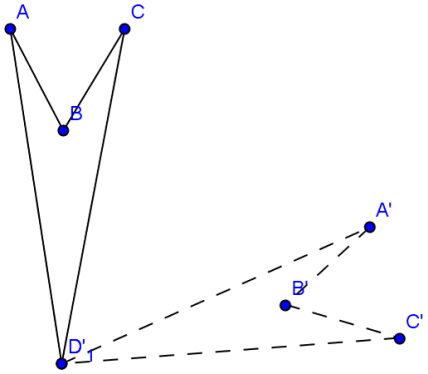
(a) ☐ What point is the center of rotation? _____

(b) ☐ What is the angle of rotation approximately? _____

(c) ☐ Niki said the angle of rotation is about 100°. What was her mistake?_____

(c) ☐ Construct a copy of the angle of rotation on ray EF.

(c) ☐ The direction of the rotation is (circle one) positive/negative.



(d) ☐ How are points D and D' different from the other preimage-image pairs?_____

(6) ☐ Find the center of rotation

(a) ☐ Draw a segment connecting points A and A'.

(b) ☐ Using a compass and straightedge, find the perpendicular bisector of this segment.

(c) ☐ Draw a segment connecting points B and B'.

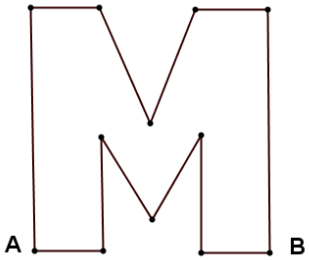
(d) ☐ Find the perpendicular bisector of this segment.

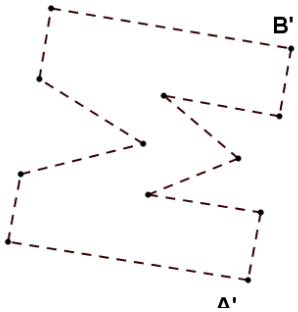
(e) ☐ Label the point where the perpendicular bisectors intersect point R.

(f) ☐ Point R is the

_____

(Use tracing paper to check the rotation)





3.5HW

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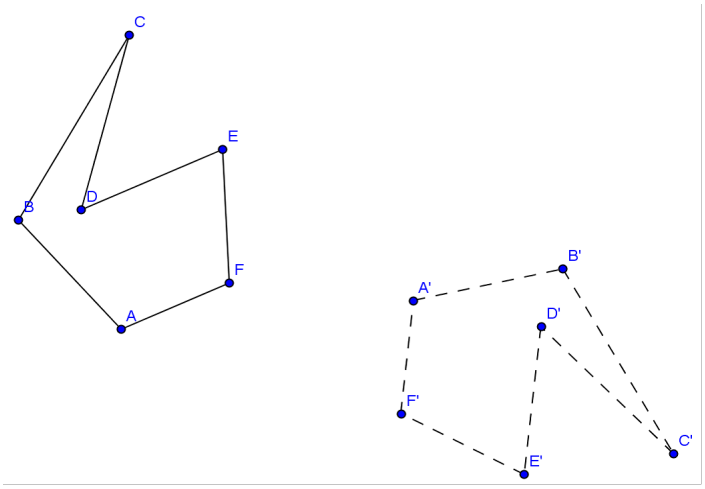
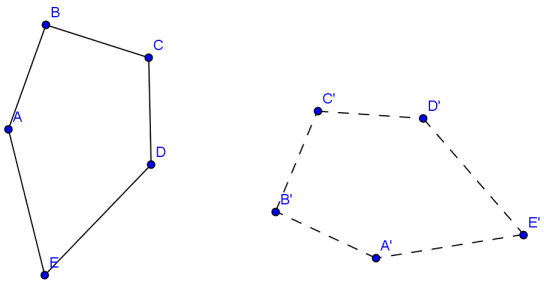
3.5 Rigid Transformations: Rotations **Geometry Regents 2013-2014 Ms. Lomac**

(1) ☐ Find the center of rotation

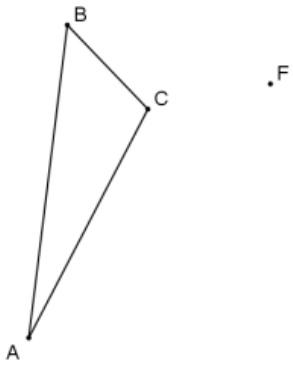
(a) ☐



(b) ☐

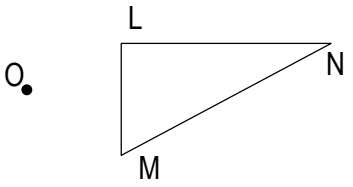


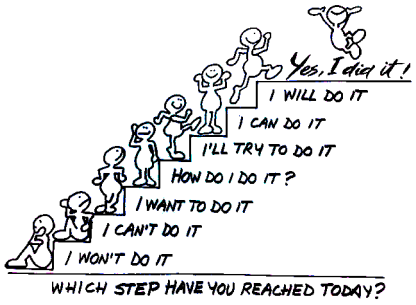
(2) ☐ Rotate △ABC –90° around point F (use the corner of a piece of paper to measure 90°)



3.5 Exit Ticket Name_____Per_____

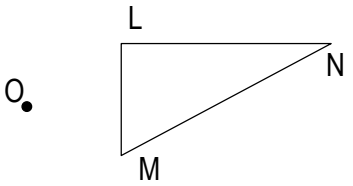
Rotate △LMN 180° around point O. (You'll know the rotation is 180° when . . .)

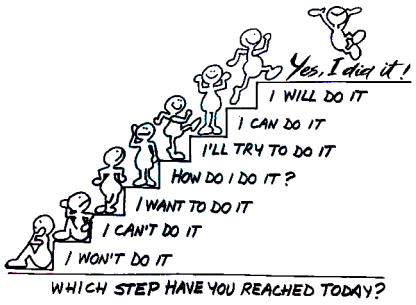




3.5 Exit Ticket Name_____Per_____

Rotate △LMN 180° around point O. (You'll know the rotation is 180° when . . .)





3.5 Exit Ticket Name_____Per_____

Rotate △LMN 180° around point O. (You'll know the rotation is 180° when . . .)