

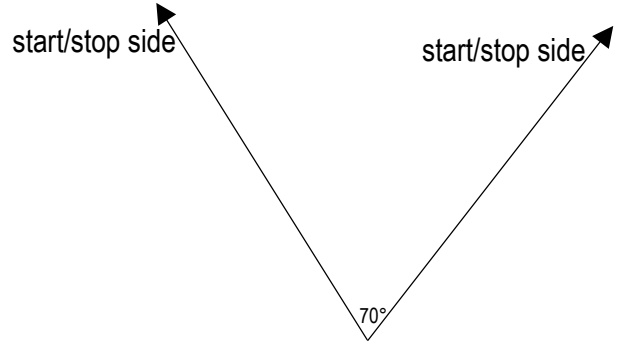
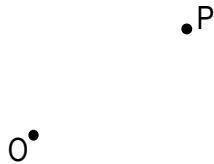
DO NOW – On the back of this packet



Name _____

LO: I can use function notation to describe **rotations** in the plane and can draw rotations with tracing paper and a straightedge.

(1) **Rotations** Draw carefully with tracing paper $R_{O, 70^\circ}(P)$
compass

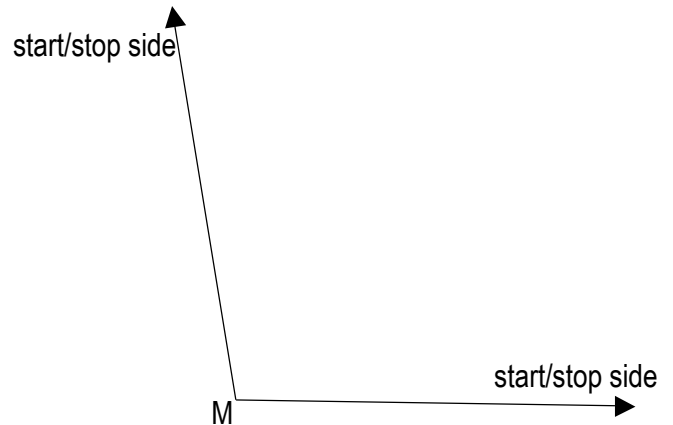
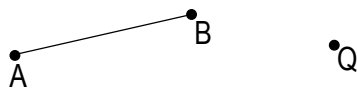


From the notation, you must rotate point _____ around point _____ a measure of _____ in a _____ direction.

If you rotate a point and trace its path, what shape do you get? _____

How can you use the 70° angle to help with your drawing? _____

(2) **Rotations** Draw $R_{Q, \angle M}(\overline{AB})$ List your steps.
compass

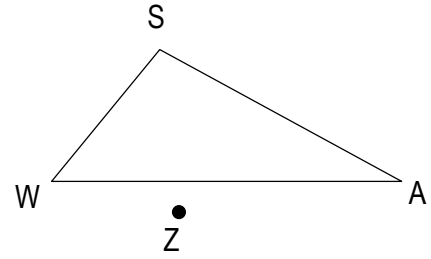
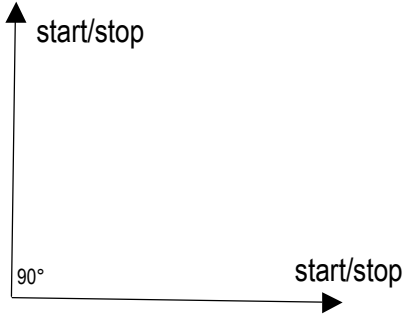


- (1) Trace _____
- (2) Place the vertex of angle M on point _____
- (3) Mark point _____ on one side of the angle. (How do you choose left or right side of the angle?)
- (4) Rotate angle M around point _____ until the other side lines up with point _____ and mark _____' on the paper
- (5) Repeat steps 2 - 4 for point _____
- (6) Another name for angle M from the rotation you have drawn would be \angle ___Q___, or \angle ___Q___.
- (7) $\overline{AB} \cong \overline{A'B'}$ because _____

(3) **Rotations Practice** Perform the rotation with tracing paper.

compass

(a) $R_Z, 90^\circ(\triangle WAS)$



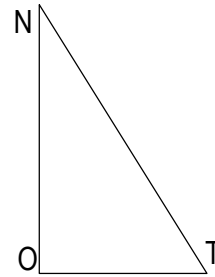
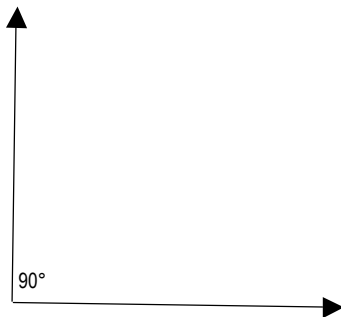
The angle of rotation could also be named _____, _____, or _____

$\triangle WAS \cong \triangle W'A'S'$ because _____

(4) **Rotations Practice** Perform each rotation.

compass

(b) $R_O, 90^\circ(\triangle NOT)$



The angle of rotation could also be named _____, _____, or _____

$\triangle NOT \cong \triangle N'O'T'$ because _____

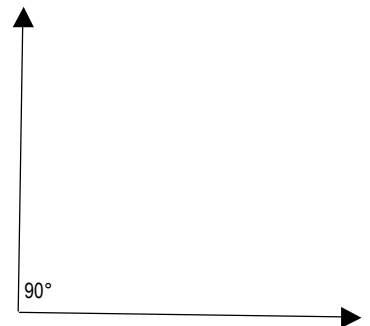
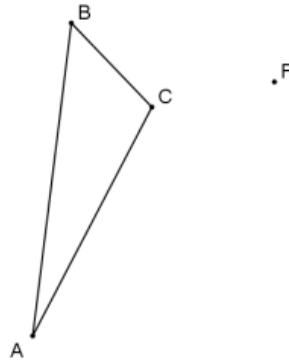
(5)
cont
compass

BIG IDEA: To draw a rotation, I need to draw copies of the _____
_____, one for each point of the figure. The vertex of
all angles must be on the _____. The names
of the copied angle are as follows: image, center of rotation, preimage.

(6) **Exit Ticket**
ON THE LAST PAGE

(7) **Homework**

(1) Draw the rotation. $R_{F, -90^\circ}(\triangle ABC)$ (If you ever need to, you can use the corner of a piece of paper to measure 90° . See lesson 9.4 if you need to review what the notation means.)



(7) **Homework**

cont,
compass
highligh-
ters

 (2) Sketch each of the following: (SEE NOTES)

(a) $\overline{QR} \perp \overleftrightarrow{ST}$

(b) \overleftrightarrow{VW} bisects \overline{XY}

(c) $\angle LMN \cong \angle OPQ$

 (3) Describe each function notation in words.

$R_{X, 30^\circ}(Y)$ _____

$R_{C, -120^\circ}(\triangle LMN)$ _____

$r_{\overline{PQ}}(\triangle ZOT)$ _____

$R_{H, \angle C}(\overline{AT})$ _____

 (4) Sketch each of the following: (SEE NOTES)

(a) Z is the midpoint of \overline{AE}

(b) $\overleftrightarrow{QR} \parallel \overleftrightarrow{ST}$

(c) $\angle SAL$ and $\angle LAD$ are a linear pair

 (5) Construct equilateral triangle BOS. In triangle BOS, bisect angle B. How many degrees is angle B?

Exit Ticket Name _____ Date _____ Per _____

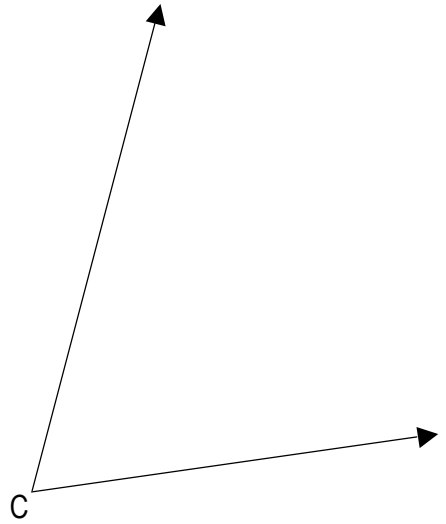
9.6L

(1) The LO (Learning Outcomes) are written below your name on the front of this packet. Demonstrate your achievement of these outcomes by doing the following:

(a) Draw resulting image of the transformation function $R_{B, \angle C}(A)$

A

B



The angle of rotation could also be named _____

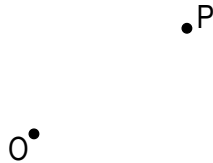
Rotations functions produce images that are congruent to their preimages because _____

DO NOW Name _____ Date _____ Per _____ 9.6L

(1) To perform rotations, we need a CENTER, an ANGLE MEASURE, and a DIRECTION.
Let's look at each part of a rotation separately.

(Complete parts (a) and (b) on your own and do as much of part (c) as you can)

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

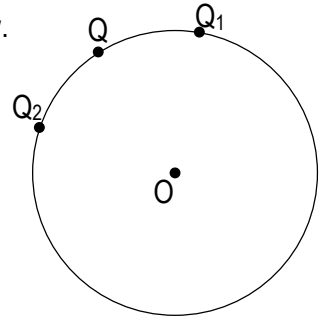


- (b) When you are showing ALL of the possible images of point P, does the direction of the rotation matter? _____
Why/why not? _____

- (c) Q_1 and Q_2 are rotations of point Q. Use the diagram to answer the questions below.
Circle clockwise or counterclockwise and positive or negative.

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**.



(2) What is this guy doing? How does this relate to today's Learning Objective (LO)?

