Geometry Local Lomac 2015-2016 **Date** 2/11 **due** 2/12 **Circles and Lines of Reflection 9.2L**

Name ______________________________________ **Per**______

LO: I can describe the relationship between circles, perpendicular bisectors, and reflection.

☐ **DO NOW** On the back of this packet

☐ (1) paper circle 8.2

Folding Circles:

☐ (a) Obtain the “Paper Circle 8.2” page

☐ (b) On the circle, find point A and point A'. Fold the paper so that point A' coincides with point A and crease the paper. With the paper creased, hold it up to the light. How much of the circle do you see? _________________
Unfold the paper and use a straightedge and pencil to trace the crease you made.

☐ (c) On the circle, find point B and point B'. Fold the paper so that point B' coincides with point B and crease the paper. With the paper creased, hold it up to the light. How much of the circle do you see? _________________
Unfold the paper and use a straightedge and pencil to trace the crease you made.

☐ (d) Repeat the steps in part (b) and (c) above with points C and C' and D and D'.

☐ (e) You have traced 4 creases and should have 4 line segments that connect points that are on the circle.
These 4 line segments with endpoints on the circle all pass through the _____________________ of the circle.
Segments with endpoints on the circle that pass through the _____________ are called ___________________.

☐ (2) circle reflection 8.2

Folding Circles take 2:

☐ (a) Obtain the “Circle Reflection 8.2” page.

☐ (b) The first circle has points A and A' marked. Fold the paper so that point A' coincides with point A and crease the paper. Unfold the paper and use a straightedge and pencil to trace the crease. Mark the points where the crease intersects the circle and label them D and R. $\overline{DR}$ is the __________________________ of the circle.

☐ (c) Use a straightedge to connect A' to point A. Mark the intersection of $\overline{DR}$ and $\overline{AA'}$ and label it M. A' is a _______________________ of A across _________ because A and A' coincide when we folded the paper. We also know that $\overline{A'M}$ is a reflection of ______ across _______ because the segments ______________ when we fold the paper. We also know that ∠A’MR is a __________________ of _________ across ______ because the angles ______________ when we fold the paper. Because ∠A’MA is a __________________ angle it measures _______ so ∠A’MR and ∠AMR are both _______. This makes $\overline{DR}$ the _________________ _____________ of $\overline{AA'}$. Verify this by repeating the process for B and B', C and C', and D and D'.

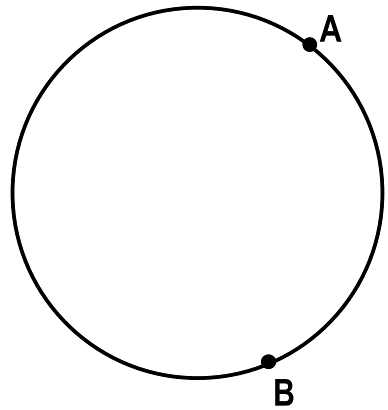
☐ **BIG IDEAS: (1) The line of reflection that maps a point on a circle to its reflected image on the circle will be a ____________________ of the circle. (2) The ______________________ ___ _____________________ is also the _________________ _________________ of the segment connecting the original point on the circle to its reflected image on the circle.**

☐ (3) **Exit Ticket**

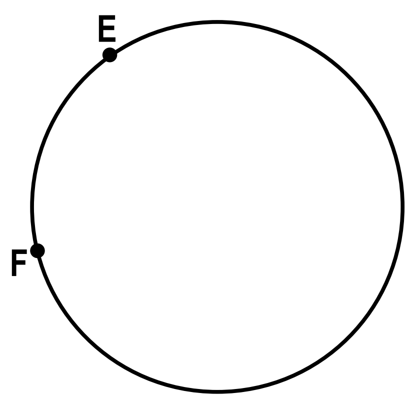
ON THE LAST PAGE

☐ (4) **Homework**

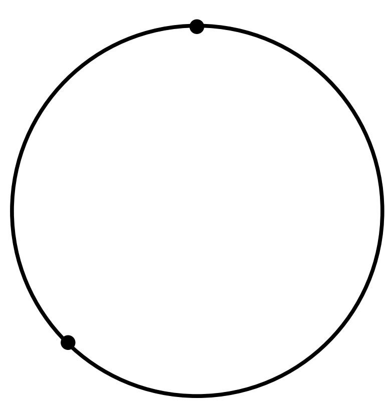
☐ (1) Construct the perpendicular bisector of AB and label it CD.



☐ (2) Construct the line of reflection that maps E to F and label the line LR.



☐ (3) Construct a diameter of the circle below and label its endpoints D and R.



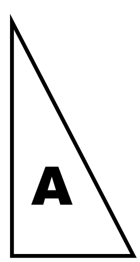
☐ (4) cont, compass highlighters

Homework

☐ (4) Draw obtuse angle AXE with a straightedge and construct the bisector of the angle.

☐ (5) Draw and label points C, O, and W such that angle COW is acute. With a straightedge and compass, construct the perpendicular bisector of segment CO and label it line m.

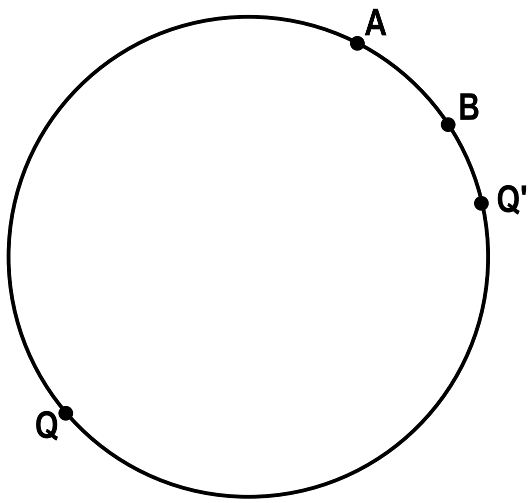
☐ (6) Draw a reflection (A') , a rotation (A''), and translation (A''') of figure A below.



Exit Ticket Name________________________________ Date ______ _____ Per_ _____ 9.2L

(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) Construct the perpendicular bisector of the segment that connects point Q to point Q'.



☐ (b) Mark the points where the perpendicular bisector you constructed intersects the circle and label the points L and R.

☐ (c) In addition to being part of the perpendicular bisector of QQ', LR is also

____

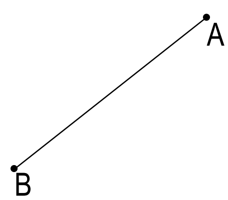
and ____

☐ (d) If you construct it, the perpendicular bisector of AB will intersect LR at ____________________________________

DO NOW **Name**________________________________ **Date** ___________ **Per**______ **9.2L**

Write anything that comes to mind when you hear or see the word ***reflection***.

(2) Construct the perpendicular bisector of AB.



(3) Does "**reflection**" pertain to (relate to) anything in your construction for part (2)?

(3) What does the image below say? Turn your paper over – left to right – and hold it up to the light. Now what does it say? Describe anything you notice.