Name (print first and last) _____ **Per**_____ **Date:** 9/18 due 9/19
#3 Angles and Bisecting Segments   **Unit 2 Geometry Regents 2013-2014 Ms. Lomac**
SLO: I can bisect segments.

(1) Sketch isosceles triangle LMN with $\overline{LM} \cong \overline{MN}$ and O is the midpoint of $\overline{LN}$.

(2) Words that we will use today are listed below. Non-bolded words should be in your notes already. Bold words will be added to your notes today. If you are absent for notes, several Geometry glossary links are on Ms. Lomac's website that you can use to define, draw examples, name & write notation, and draw non-examples.

location	distance (length)	point	line segment	endpoint
congruent	compass	construction	equilateral	equidistant
reflection	bisect	perpendicular	**angle**	**acute**
right	**obtuse**	**straight**	**adjacent**	**vertex**

(3) Use the segments on the paper strip of segments to complete each item below.

Part A: (1) Fold $\overline{AB}$ so that point A and point B meet exactly – the dots should touch.
(2) Crease the paper on this fold.
(3) Use a ruler and pencil to draw the line made by the crease.
(4) Label the new line CD and draw arrows at its ends.
(5) Label the intersection of $\overline{AB}$ and $\overleftrightarrow{CD}$ with the letter E.
(6) Repeat steps 1 through 5 for $\overline{FG}$ (label the new line HI and the point of intersection J),
$\overline{KL}$ (label the new line MN and the point of intersection O),
$\overline{PQ}$ (label the new line RS and the point of intersection T),
$\overline{UV}$ (label the new line WX and the point of intersection Y).

Part B: Write the pair of segments that are congruent for each diagram.

$\overline{AB}$: _____≅_____ $\overline{FG}$: _____≅_____ $\overline{KL}$: _____≅_____ $\overline{PQ}$: _____≅_____ $\overline{UV}$: _____≅_____

Part C: How do you know that the segments you listed above are congruent?

_____

_____

Part D: Based on what you found in parts A-C, points E, J, O, T, and Y are _____

and $\overleftrightarrow{CD}$, $\overleftrightarrow{HI}$, $\overleftrightarrow{MN}$, $\overleftrightarrow{RS}$, and $\overleftrightarrow{WX}$ are _____.

(4) There is another relationship in the diagrams. What do you think it is?_____

_____

(5) One group member should get linkage strips from the teacher. Each group member will need two linkage strips and 1 fastener. Extra materials should be put to the side. Use the linkage strips to complete the following tasks and questions.

Part A: (1) Align 2 linkage strips on top of one another and attach one end of the aligned strips to the fastener

(2) Place the linkage strips over $\overrightarrow{PR}$ below. Notice that both linkage strips are part of the same ray. The measure of this angle is 0° because the rays coincide since no rotation has occurred

(3) Now rotate the top linkage strip in the positive direction until it is over point Q. This rotation forms what we call an **angle**.

(4) Move the linkage strips from the diagram and draw ray PQ

Part B: Complete the statement:

Ray _____ and ray _____ share the common endpoint _____.

(6) NOTES: Angles, naming angles, and angle types. (Get out your notebook or notes sheets)

(7) From problem 3, which type of angles are ∠AEB, ∠FJG, ∠KOL, ∠PTQ, and ∠UYV? _____

(8) From problem 3, look at the angles formed where each segment and line intersect, angles like ∠AEC and ∠STQ. What are the measures of those angles? _____

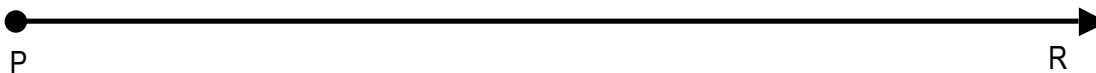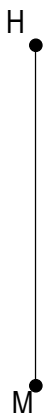Use what you know about straight angles and paper folding to justify your claim.

_____

_____

_____

•Q

•——▶
P   R

(1) Use your compass to make equilateral triangles to the left and to the right of each segment.

B•

A•

X•

Y•

P•

Q•

H•

M•

(2) Fold each segment so that the endpoints meet. What do you notice about where the crease intersects the triangle?

_____

_____

_____
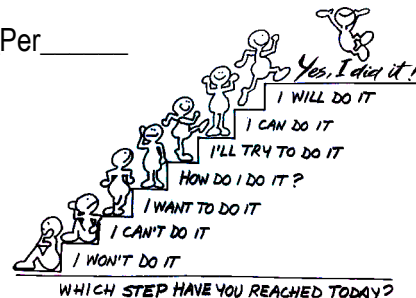
Exit Ticket Unit 2 Activity#3   Name_____Per_____

Use the process from today's lesson to construct the perpendicular bisector of $\overline{AB}$.

B

A

WHICH STEP HAVE YOU REACHED TODAY?

Yes, I did it!
I WILL DO IT
I CAN DO IT
I'LL TRY TO DO IT
HOW DO I DO IT?
I WANT TO DO IT
I CAN'T DO IT
I WON'T DO IT

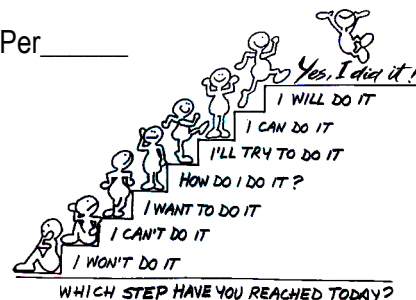Exit Ticket Unit 2 Activity#3   Name_____Per_____

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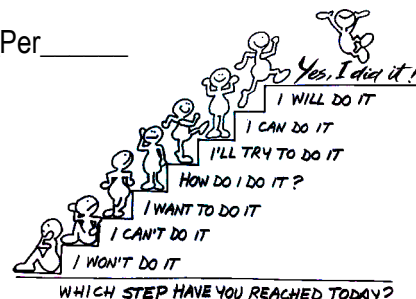
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