	Congruence:	4.5
	Transformation or	
	Euclidean	

(DN) Sketch 5 triangles. Each triangle must show what is needed to prove triangles congruent by one of the triangle congruence shortcuts. Each triangle should show a different shortcut. The shortcuts are:
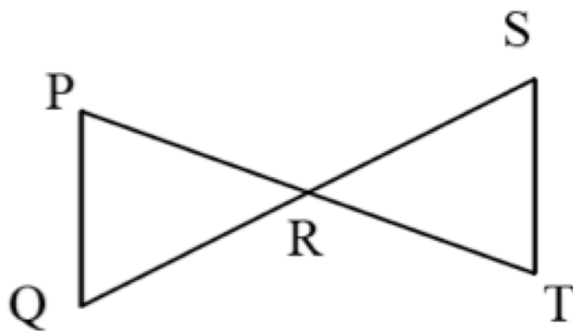
SAS, ASA, SSS, AAS, HL.

Name _____**Per**_____

LO: I can write Transformation and Euclidian proofs
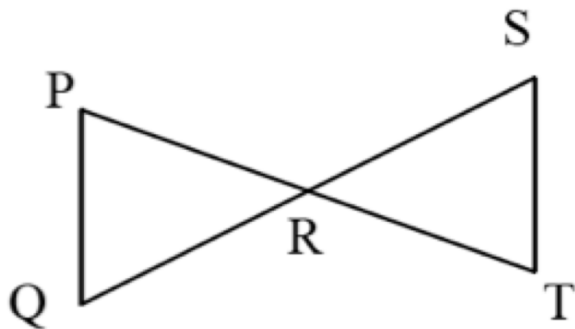

☐ (1t)   **Transformation Proof**

transparencies, dry erase markers, eraser, compass, straightedge

☐ Describe a series of transformations that will show that the triangles below are congruent. Use the fact that R is the midpoint of both $\overline{PT}$ and $\overline{QS}$. Remember, that for 2 triangles to be congruent, there must be a sequence of transformations that will result in the three points of 1 triangle mapping to the 3 points of the other triangle. Marking the facts you know in the diagram will make it easier to choose useful transformations.
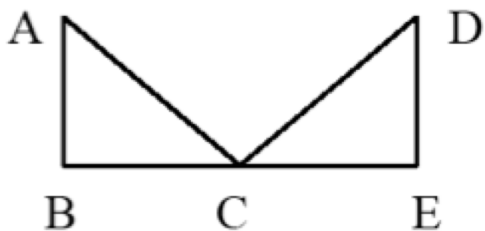
☐ (1e) **Euclidian Proof**

☐ Write a series of "I know that . . . because . . . " statements that prove that the triangles below are congruent.
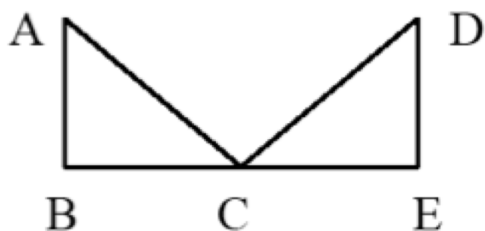Use the fact that R is the midpoint of both $\overline{PT}$ and $\overline{QS}$

☐ (3t) **Transformation Proof**

HW
transparen
cies, dry
erase
markers,
eraser,
compass,
straightedg
e

☐ Describe a series of transformations that will show that the triangles below are congruent. Use the fact that $\overline{AE} \cong \overline{CB}$, $\overline{AB} \cong \overline{CD}$ and B is the midpoint of $\overline{ED}$. Remember, that for 2 triangles to be congruent, there must be a sequence of transformations that will result in the three points of 1 triangle mapping to the 3 points of the other triangle. Marking the facts you know in the diagram will make it easier to choose useful transformations.
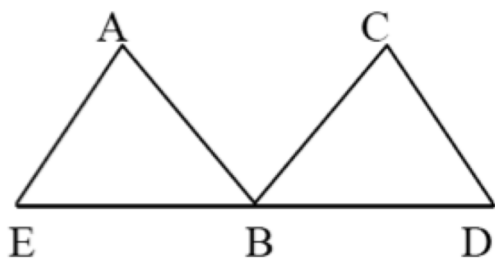

☐ (3e) **Euclidian Proof**

HW

☐ Write a series of "I know that . . . because . . . " statements that prove that the triangles below are congruent. Use the fact that $\overline{AE} \cong \overline{CB}$, $\overline{AB} \cong \overline{CD}$ and B is the midpoint of $\overline{ED}$.
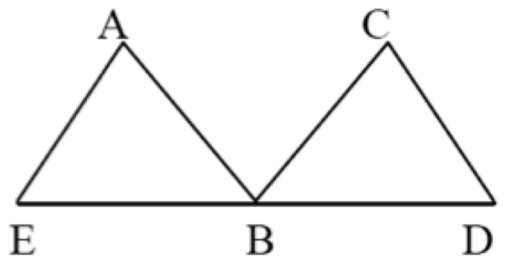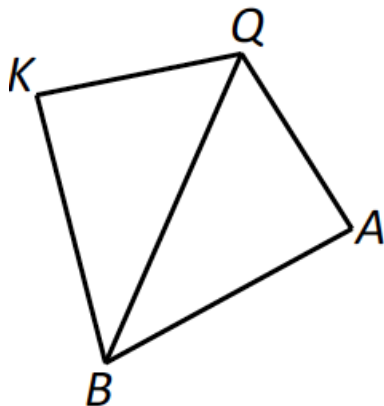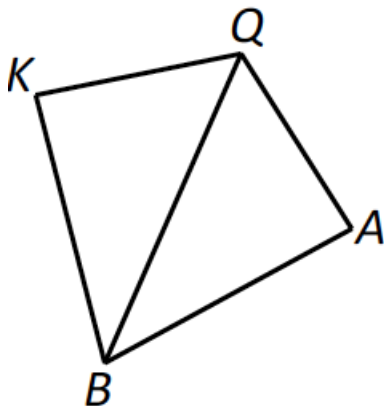
☐ (4t)   **Transformation Proof**

HW

transparen
cies, dry
erase
markers,
eraser,
compass,
straightedg
e

☐ Describe a series of transformations that will show that the triangles below are congruent. Use the fact that $\overline{QK} \cong \overline{QA}$ and $\overline{QB}$ bisects $\angle KQA$. Remember, that for 2 triangles to be congruent, there must be a sequence of transformations that will result in the three points of 1 triangle mapping to the 3 points of the other triangle. Marking the facts you know in the diagram will make it easier to choose useful transformations.

☐ (4e)   **Euclidian Proof**

HW

☐ Write a series of "I know that . . . because . . . " statements to prove that $\overline{KB} \cong \overline{AB}$. Use the fact that $\overline{QK} \cong \overline{QA}$ and $\overline{QB}$ bisects $\angle KQA$.

☐ (5t) **Transformation Proof**

☐ Describe a series of transformations that will show that △ABE ≅ △CBD. Use the fact that $\overline{BD} \cong \overline{BE}$ and $\angle A \cong \angle C$. Remember, that for 2 triangles to be congruent, there must be a sequence of transformations that will result in the three points of 1 triangle mapping to the 3 points of the other triangle. Marking the facts you know in the diagram will make it easier to choose useful transformations.
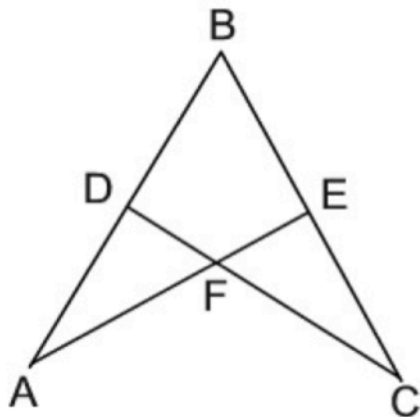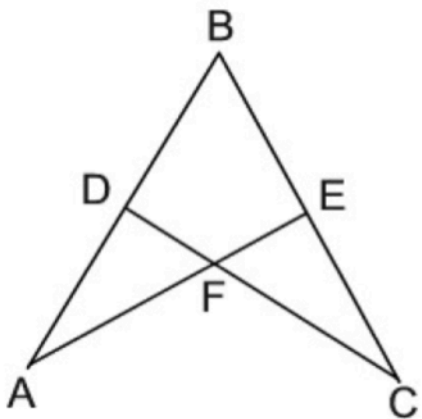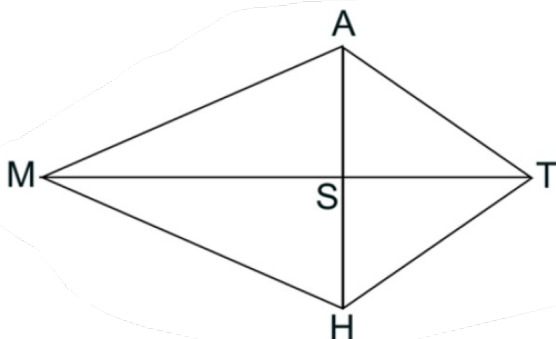

☐ (5e) **Euclidian Proof**

☐ Write a series of "I know that . . . because . . . " statements that prove that $\overline{DC} \cong \overline{AF}$.
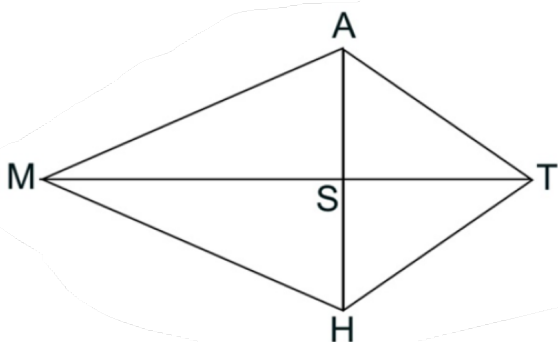Use the fact that $\overline{BD} \cong \overline{BE}$ and $\angle A \cong \angle C$

☐ (6t) **Transformation Proof**

☐ Describe a series of transformations that will show that the triangles below are congruent. Use the fact that $\overline{MA} \cong \overline{MH}$ and $\overline{AS} \cong \overline{HS}$. Remember, that for 2 triangles to be congruent, there must be a sequence of transformations that will result in the three points of 1 triangle mapping to the 3 points of the other triangle. Marking the facts you know in the diagram will make it easier to choose useful transformations.

transparencies, dry erase markers, eraser, compass, straightedge
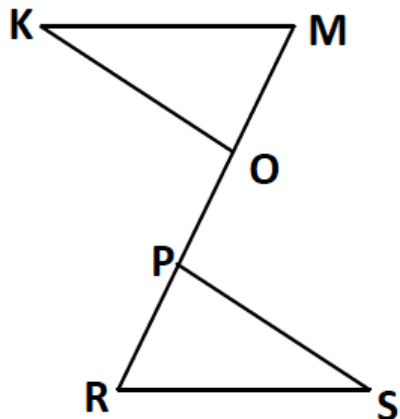

☐ (6e) **Euclidian Proof**

☐ Write a series of "I know that . . . because . . . " statements that prove that $\overline{MT}$ bisects $\angle ATH$.
Use the fact that $\overline{MA} \cong \overline{MH}$ and $\overline{AS} \cong \overline{HS}$.
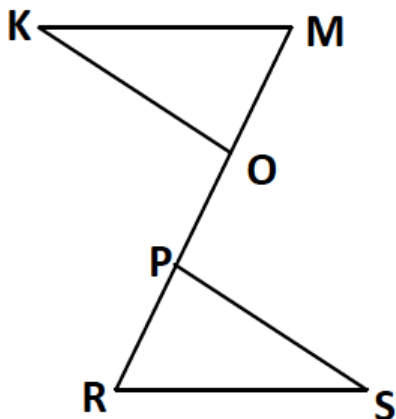
☐ (7t) **Transformation Proof**

HW

transparen
cies, dry
erase
markers,
eraser,
compass,
straightedg
e

☐ Describe a series of transformations that will show that the triangles below are congruent. Use the fact that $\angle M \cong \angle R$, $\angle RPS \cong \angle MOK$, and $\overline{MP} \cong \overline{RO}$. Remember, that for 2 triangles to be congruent, there must be a sequence of transformations that will result in the three points of 1 triangle mapping to the 3 points of the other triangle. Marking the facts you know in the diagram will make it easier to choose useful transformations.

☐ (7e) **Euclidian Proof**

HW

☐ Write a series of "I know that . . . because . . . " statements that prove that $\overline{KM} \cong \overline{RS}$.
Use the fact that $\angle M \cong \angle R$, $\angle RPS \cong \angle MOK$, and $\overline{MP} \cong \overline{RO}$.

☐ **(8t)** **Transformation Proof**

☐ Describe a series of transformations that will show that the triangles below are congruent. Use the fact that $\overline{GH} \parallel \overline{JI}$ and I is the midpoint of $\overline{HK}$. Remember, that for 2 triangles to be congruent, there must be a sequence of transformations that will result in the three points of 1 triangle mapping to the 3 points of the other triangle. Marking the facts you know in the diagram will make it easier to choose useful transformations.

transparencies, dry erase markers, eraser, compass, straightedge
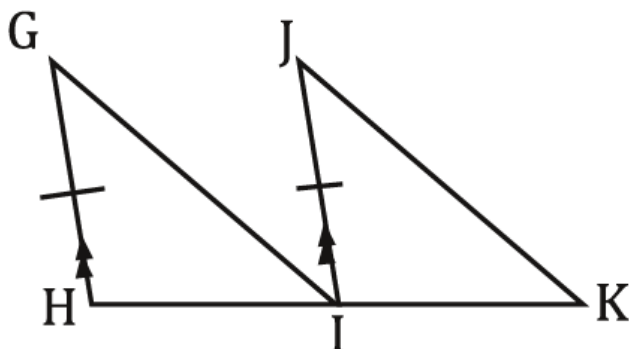
☐ **(8e)** **Euclidian Proof**

☐ Write a series of "I know that . . . because . . . " statements to prove that $\overline{GI} \parallel \overline{JK}$.

Use the fact that $\overline{GH} \parallel \overline{JI}$ and I is the midpoint of $\overline{HK}$.
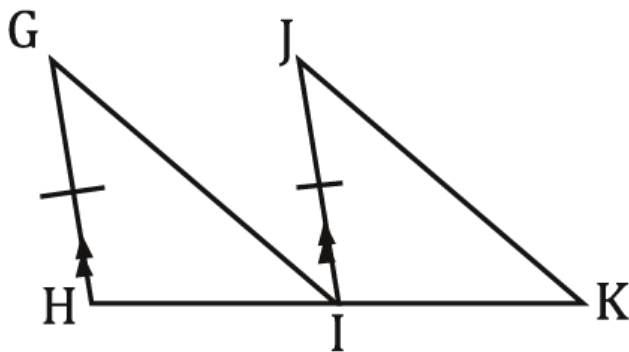
☐ (12) **Exit Ticket**

☐ Write a Transformation or Euclidian proof. (If transformation, you must draw the diagram, use the givens, and prove that the triangles are congruent. If Euclidean, prove the statement written below.)

M

J   K

O
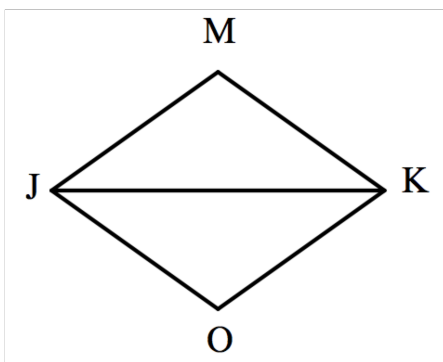
Given: $\overline{MK} \cong \overline{OK}$

$\overline{KJ}$ bisects ∠MKO

Prove: $\overline{KJ}$ bisects ∠MJO

☐ (13) **Homework**

Numbers 3, 4, and 7 from the lesson.