

Name \_\_\_\_\_ Per \_\_\_\_\_

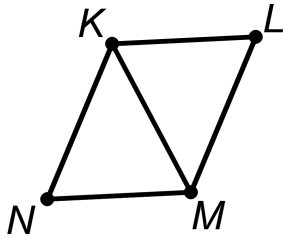
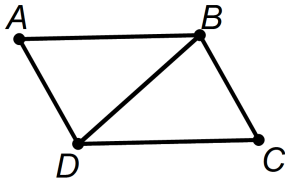
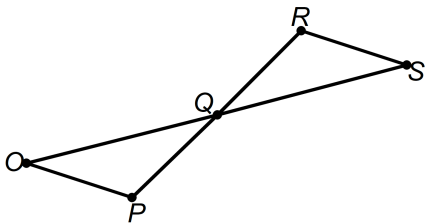
LO: I can show congruence through a sequence of transformations or a Euclidean proof.

 DO NOW On the back of this packet (1) Use the diagram and the given information to:

transparencies, dry erase markers, eraser, compass, straightedge

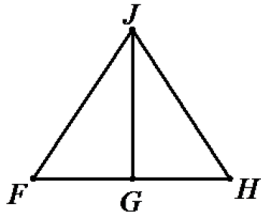
(1) Write a Euclidean proof to show that two triangles are congruent.

(2) Describe a sequence of transformations that will map one triangle onto the other

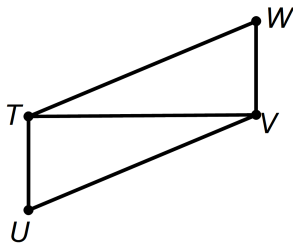
(a) Given:  $\overline{KN} \parallel \overline{LM}$ ,  $\overline{NM} \cong \overline{KL}$  Prove: the triangles are congruent(b) Given:  $\overline{AD} \cong \overline{BC}$ ,  $\angle ABD \cong \angle CDB$  Prove: the triangles are congruent(c) Given:  $\overline{OS}$  bisects  $\overline{PR}$ ,  $\overline{OP} \parallel \overline{RS}$  Prove: the triangles are congruent

- (1) (d) Given:  $\overline{FJ} \cong \overline{HJ}$ ;  
 $G$  is the midpoint of  $\overline{FH}$

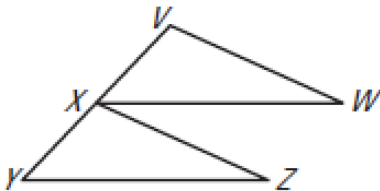
Prove: the triangles are congruent



- (e) Given:  $\overline{VW} \perp \overline{TV}$ ,  $\overline{TU} \perp \overline{TV}$ ,  $\overline{TW} \cong \overline{UV}$     Prove: the triangles are congruent

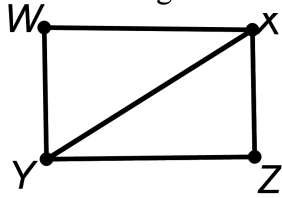


- (g) Given:  $X$  is the midpt. of  $\overline{VY}$ ;  $\overline{XW} \parallel \overline{YZ}$ ,    Prove: the triangles are congruent  
 $\angle YXZ \cong \angle XVW$

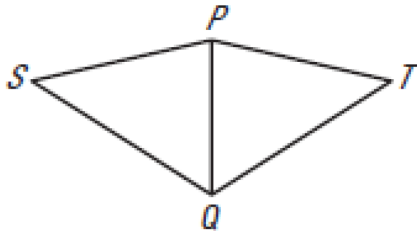


□ (1) □ What about SSA for right triangles?

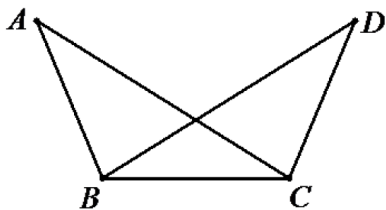
(h) Given:  $\overline{WX} \parallel \overline{YZ}$ ,  $\angle W$  and  $\angle Z$  are right angles Prove: the triangles are congruent



(i) Given:  $\overline{PQ}$  bisects  $\angle SPT$ ,  $\overline{SP} \cong \overline{TP}$  Prove: the triangles are congruent



(j) Given:  $\overline{AB} \cong \overline{DC}$ ;  $\overline{AC} \cong \overline{DB}$  Prove:  $\triangle ABC \cong \triangle DCB$



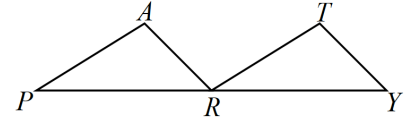
□ (2) Select the correct answer.

1) If you are given two triangles,  $\triangle LAX$  and  $\triangle TVH$ , where  $\angle L \cong \angle T$  and  $\overline{LA} \cong \overline{TV}$ , what additional information would *not* be sufficient to prove  $\triangle LAX \cong \triangle TVH$ ?

- A.  $\angle A \cong \angle V$
- B.  $\overline{LX} \cong \overline{TH}$
- C.  $\overline{AX} \cong \overline{VH}$
- D.  $\angle X$  and  $\angle H$  are right angles

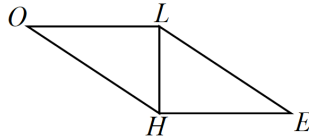
2) Given  $\overline{PA} \parallel \overline{RT}$ ,  $\overline{PA} \cong \overline{RT}$ ,  $R$  is the midpoint of  $\overline{PY}$ . Which theorem or postulate can be used to prove  $\triangle PAR \cong \triangle RAT$ ?

- A. ASA
- B. HL
- C. SSA
- D. SAS



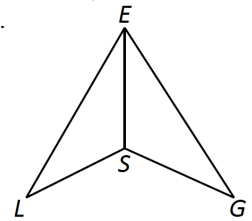
3) Given  $\overline{HL} \perp \overline{OL}$ ,  $\overline{HL} \perp \overline{LE}$ , and  $\angle O \cong \angle E$ . Which theorem or postulate can be used to prove  $\triangle OHL \cong \triangle ELH$ ?

- A. SSA
- B. SAS
- C. ASA
- D. HL



4) Given  $\overline{SE}$  bisects  $\angle LEG$  and  $\overline{LE} \cong \overline{EG}$ , choose the correct congruence statement.

- A.  $\triangle LES \cong \triangle ESG$
- B.  $\triangle SLE \cong \triangle GSE$
- C.  $\triangle SLE \cong \triangle ESG$
- D.  $\triangle ELS \cong \triangle EGS$

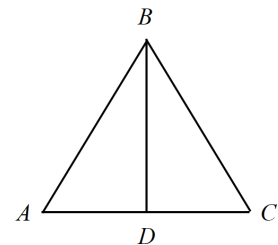


5) If you are given two triangles,  $\triangle MNP$  and  $\triangle QRS$ , where  $\overline{MN} \cong \overline{QR}$  and  $\overline{NP} \cong \overline{RS}$ , what additional information would be sufficient to prove  $\triangle NPM \cong \triangle RSQ$ ?

- A.  $\angle R \cong \angle P$
- B.  $\angle S$  and  $\angle P$  are right angles
- C.  $\overline{MN} \cong \overline{QS}$
- D.  $\angle M \cong \angle Q$

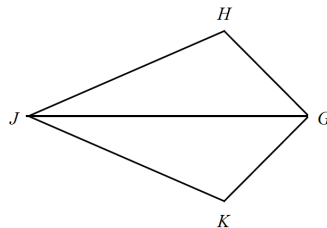
6) If  $\triangle ABC$  and  $\triangle CBD$  are right triangles and  $\overline{AB} \cong \overline{BC}$ , what theorem or postulate proves  $\triangle ABD \cong \triangle CBD$ ?

- A. HL
- B. SAS
- C. SSS
- D. ASA



7) If  $\overline{HG} \cong \overline{KG}$  and  $\angle HGJ \cong \angle KGJ$ , which congruence postulate or theorem would prove  $\triangle GHJ \cong \triangle GKJ$ ?

- A. SAS
- B. SSS
- C. HL
- D. AAS



8) Choose the correct congruency statement given the triangles below.

- a.  $\triangle HFG \cong \triangle KIJ$
- b.  $\triangle GHF \cong \triangle KJI$
- c.  $\triangle GHF \cong \triangle KIJ$
- d.  $\triangle FGH \cong \triangle KJI$

