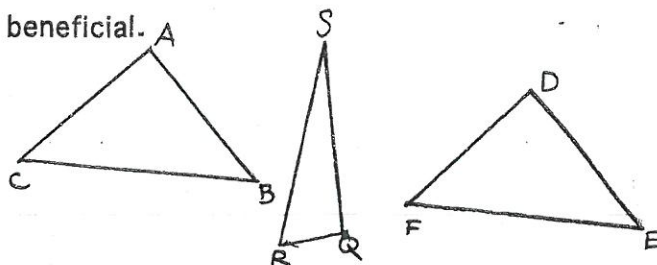


# ≅ Δ WS #2

4.4-5 Rev WS #2

Name: \_\_\_\_\_

For problems #1-8, the diagrams at right will be beneficial.



- For  $\triangle ABC$  name the included angle of  $\overline{AC}$  and  $\overline{BC}$ .  $\angle C$
- For  $\triangle ABC$  name the two sides which include  $\angle CAB$ .  $CA \ \& \ AB$
- For  $\triangle QRS$  name a non-included side of  $\angle R$  and  $\angle Q$ .  $RS$  (or)  $SQ$
- For  $\triangle QRS$  start at  $\angle RQS$ , going clockwise around triangle name the next consecutive angle, side and side.  $\angle R$ ,  $RS$ ,  $RQ$  ( $\angle QRS$ )

# 5 - 8, state a third congruence you could be given to prove  $\triangle ABC \cong \triangle DEF$  using the indicated method ( a sketch of triangles will help).

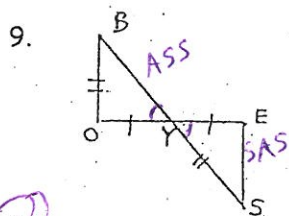
5.  $\angle A = \angle D$   
 $\angle B = \angle E$   
 Method: ASA  
 $DE = AB$

6.  $\angle A = \angle D$   
 $\overline{BC} = \overline{EF}$   
 Method: AAS  
 $\angle C = \angle F$   
 (or)  
 $\angle B = \angle E$

7.  $\angle A = \angle D$   
 $\overline{AC} = \overline{DF}$   
 Method: ASA  
 $\angle C = \angle F$

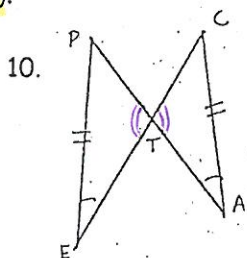
8.  $\angle C = \angle F$   
 $\overline{EF} = \overline{BC}$   
 Method: SAS  
 $\overline{AC} \cong \overline{DF}$

#9-14, Can you prove the two triangles are congruent? Why or why not? If the triangles are congruent, then name them (i.e. write a congruence statement).

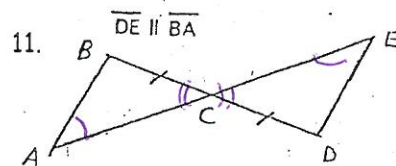


yes or no  
 reason:  
 $\cong$  statement

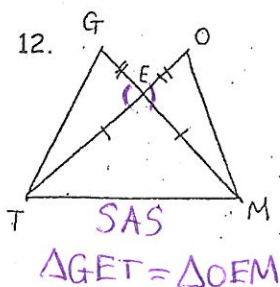
not corresponding  
 (or ASS)



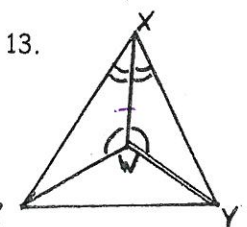
SAA or AAS  
 $\triangle PET \cong \triangle CAT$



AAS, SAA or ASA  
 $\triangle BAC \cong \triangle DEC$

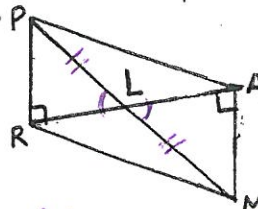


SAS  
 $\triangle GET = \triangle OEM$



ASA  
 $\triangle XWZ = \triangle XWY$

14. L is the midpoint of  $\overline{PM}$

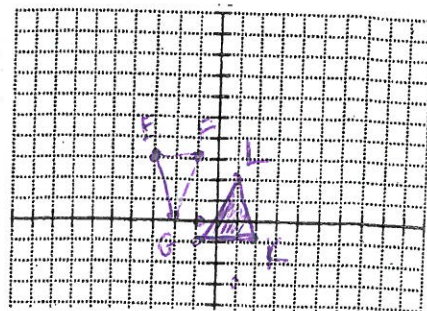


AAS or SAA  
 $\triangle PLR = \triangle MLA$

15. Use the given set of points and the graph at right to determine whether or not  $\triangle EFG \cong \triangle JKL$ . Explain your reasoning.

E (-3,3), F (-1,3), G (-2,0), J(0,-1), K(2,-1), L(1,2)

SSS



#17-21, Write a

two-column proof for the following problems

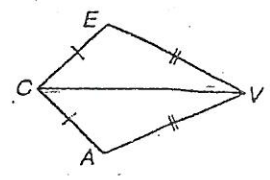
17.

Given:  $\overline{EC} \cong \overline{AC}$   
 $\overline{VE} \cong \overline{VA}$

Prove:  $\triangle CEV \cong \triangle CAV$

1. $EC=AC$	1. G
2. $VE=VA$	2. G
3. $CV=CV$	3. reflexive
4. $\triangle CEV = \triangle CAV$	4. SSS

17.



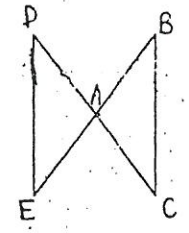
18.

Given: A is the midpoint of  $\overline{CD}$  &  $\overline{BE}$

Prove:  $\triangle DAE \cong \triangle CAB$

1. A is mdpt	1. G
2. $EA=AB$	2. def. midpoint
3. $DA=AC$	3. " "
4. $\angle DAE = \angle CAB$	4. vertical
5.	5. SAS

18.



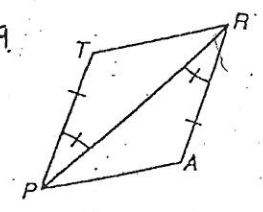
19.

Given:  $\overline{PT} \cong \overline{RA}$   
 $\angle R \cong \angle P$

Prove:  $\triangle TRP \cong \triangle APR$

1. $PT=RA$	1. G
2. $\angle R = \angle P$	2. G
3. $PR=PR$	3. reflexive
4. $\triangle TRP = \triangle APR$	4. SAS

19.



20.

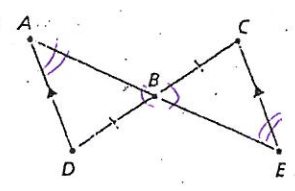
Given:  $\overline{AD} \parallel \overline{CE}$   
 $\overline{BD} \cong \overline{BC}$

Prove:  $\triangle ABD \cong \triangle EBC$

(or  $\angle D = \angle C$ )  
(or ASA if  $\angle D = \angle C$  used)

1. $AD \parallel CE$	1. G
2. $BD = BC$	2. G
3. $\angle ABD = \angle CBE$	3. vertical
4. $\angle A = \angle E$	4. Alternate Interior
5. $\triangle ABD = \triangle EBC$	5. AAS (or SAA)

20.



Statement | Reason

21.

Given:  $\overline{AB} \perp \overline{AD}$ ,  $\overline{DE} \perp \overline{AD}$   
C is the midpoint of  $\overline{BE}$

Prove:  $\triangle ABC \cong \triangle DEC$

1. $AB \perp AD$	1. } G
2. $DE \perp AD$	2. }
3. C is mdpt BE	3. }
4. $BC = CE$	4. def midpoint
5. $\angle ACB = \angle ECD$	5. vertical $\angle$ s
6. $\angle A = 90$	6. } def $\perp$
7. $\angle D = 90$	7. }
8. $\angle A = \angle D$	8. Sub (6, 7)
9. $\triangle ABC = \triangle DEC$	9. AAS (or SAA)

21.

