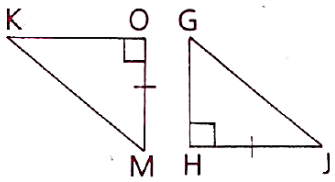
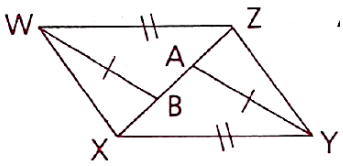
 Name: _____

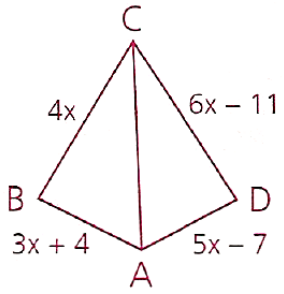
Past due on: _____ Period _____

5.5D1 ~ Congruent Triangle Proofs

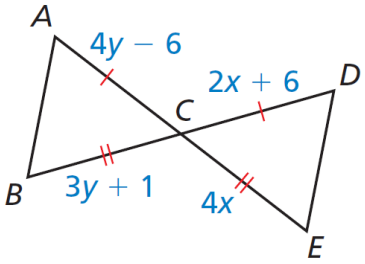
1. Study the congruent sides and angles shown by the tick marks and arc marks, then identify the additional information needed to support the specified method of proving that the indicated triangles are congruent.

		TRIANGLES	METHOD	NEEDED INFORMATION
a.		$\triangle HGJ$ & $\triangle OKM$	SAS	
b.			ASA	
c.		$\triangle WBZ$ & $\triangle YAX$	SSS	
d.			SAS	

2. The perimeter of ABCD is 85.
   a. Set up and solve an equation to find the value of x.
   b. Is $\triangle ABC \cong \triangle ADC$? Explain your reasoning.



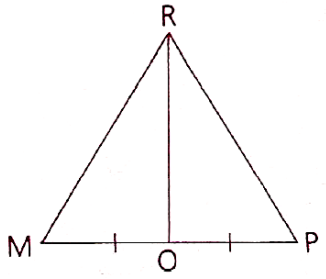
3. a. Explain how $\triangle ABC \cong \triangle DEC$.
   b. Set up and solve a system of equations to find the values of x and y.



4. $\triangle JCS \cong \triangle JDB$, $m\angle C = 6x^2 - 64$, $m\angle D = 8x$. Set up and solve a quadratic equation and find the value of x that makes sense. Find the $m\angle C$.

5. Given: $\overline{RO} \perp \overline{MP}$
$\overline{MO} \cong \overline{PO}$

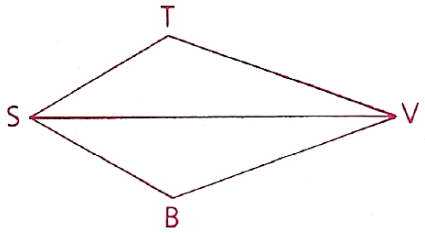
Prove: $\triangle MRO \cong \triangle PRO$



STATEMENTS	REASONS

6. Given: $\overrightarrow{SV}$ bisects $\angle TSB$
$\overrightarrow{VS}$ bisects $\angle TVB$

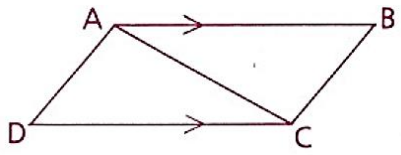
Prove: $\triangle TSV \cong \triangle BSV$



STATEMENTS	REASONS

7. Given: $\overline{AB} \parallel \overline{DC}$
$\overline{AB} \cong \overline{DC}$

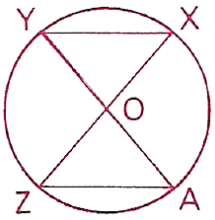
Prove: $\triangle ABC \cong \triangle CAD$



STATEMENTS	REASONS

8. Given: O is the midpoint of $\overline{AY}$
O is the midpoint of $\overline{ZX}$

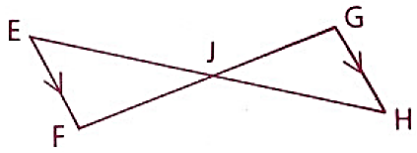
Prove: $\triangle ZOA \cong \triangle XOY$



STATEMENTS	REASONS

9. Given: $\overline{EF} \parallel \overline{GH}$
$\overline{EF} \cong \overline{GH}$

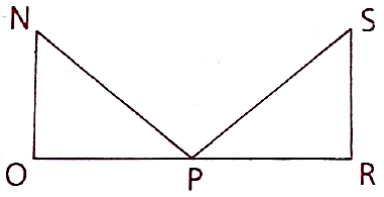
Prove: $\triangle EFJ \cong \triangle HGJ$



STATEMENTS	REASONS

10. Given: $\angle N$ is comp. to $\angle NPO$
$\angle S$ is comp. to $\angle SPR$
$\angle NPO \cong \angle SPR$
$\overline{NO} \cong \overline{SR}$

Prove: $\triangle NOP \cong \triangle SRP$



STATEMENTS	REASONS