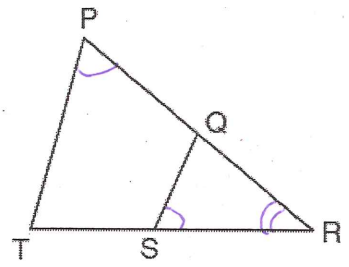
Name: ANSWERS
Monica
Geometry Period:____
Date:_____

Unit 7 – Proving Triangles Similar using AA~

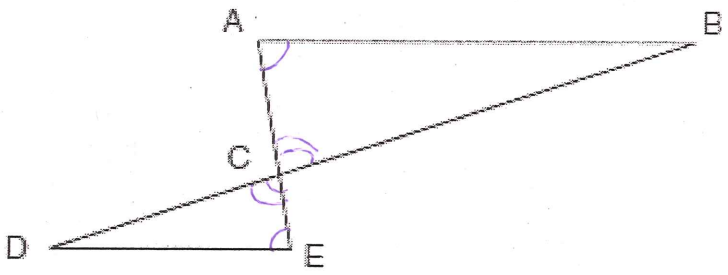
Directions: Each of the proofs below requires using the AA~ postulate. Complete each proof using this postulate.

1) Given: $\angle RPT \cong \angle RSQ$
Prove: $\Delta RPT \sim \Delta RSQ$



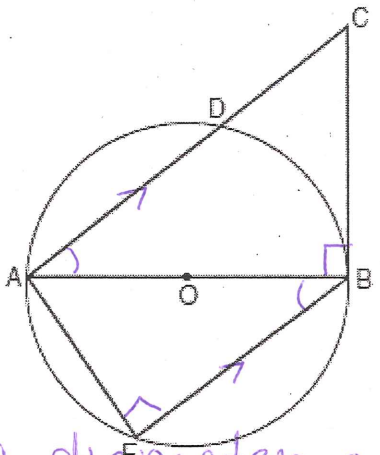
Statements	Reasons
1. $\angle RPT \cong \angle RSQ$	1. Given
2. $\angle R \cong \angle R$	2. Reflexive Property
3. $\Delta RPT \sim \Delta RSQ$	3. AA~

2) Given: $\angle CAB \cong \angle CED$
Prove: $\Delta CAB \sim \Delta CED$



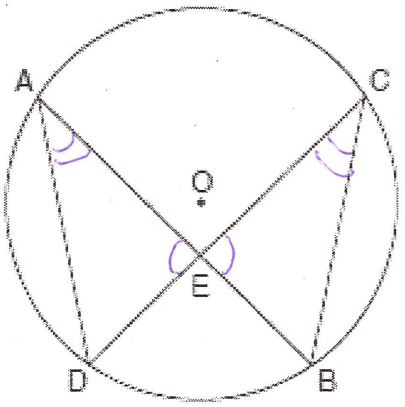
Statements	Reasons
1. $\angle CAB \cong \angle CED$	1. Given
2. $\angle ACB \cong \angle ECD$	2. Vertical angles are $\cong$
3. $\Delta CAB \sim \Delta CED$	3. AA~

3) Given: $\overline{ADC} \parallel \overline{EB}$, $\overline{CB}$ is tangent to circle O
Prove: $\Delta EAB \sim \Delta BCA$



Statements	Reasons
1. $\overline{ADC} \parallel \overline{EB}$	1. Given
2. $\angle DAB \cong \angle EBA$	2. Alt. int. $\angle$s are $\cong$
3. $\overline{CB}$ is tangent to $\odot O$	3. Given
4. $\angle ABC = 90°$	4. A tangent and a diameter are $\perp$
5. $\angle E = 90°$	5. An inscribed angle in a semi-circle is a right $\angle$ (inscribed $\angle$s are $\frac{1}{2}$ of the intercepted arc)
6. $\angle ABC = \angle E$	6. Substitution
7. $\Delta EAB \sim \Delta BCA$	7. AA~

4) Given: Circle O with chords $\overline{AD}$ and $\overline{CB}$ drawn
Prove: $\Delta AED \sim \Delta CEB$



Statements	Reasons
1. $\angle AED \cong \angle CEB$	1. Vertical $\angle$s are $\cong$
2. $\angle A \cong \angle C$	2. inscribed angles that intercept the same are are $\cong$
3. $\Delta AED \sim \Delta CEB$	3. AA~