

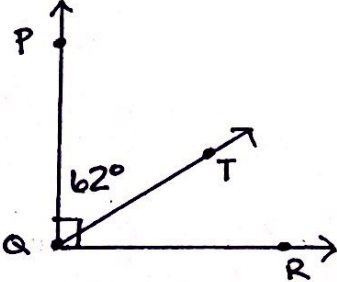
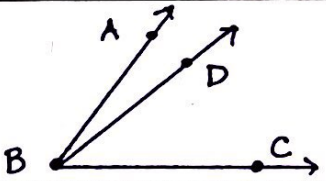


H. Geometry - Chapter 2 - Definition Sheet

Section 2.4 (PROOFS Day 3)

<p><u>Segment Addition Postulate</u> (SAP)</p>	<p>If B is on \overline{AC} and between A and C, then</p> <p style="text-align: center;"><u>$AB + BC = AC$</u></p> <hr style="border-top: 1px dashed black;"/> <p>EXAMPLE:</p> <div style="text-align: center;">  </div>	<div style="text-align: center;">  </div> <p style="text-align: center;">$AB + BC = AC$</p> <hr style="border-top: 1px dashed black;"/> <p>IF $DE = 3.6 \text{ cm}$ $EF = 2.2 \text{ cm}$</p> <p>Then $DF = 5.8 \text{ cm}$</p>
<p>*must be measures*</p>	<p>If D lies in the interior of $\angle ABC$, then</p> <p style="text-align: center;"><u>$m\angle ABD + m\angle DBC = m\angle ABC$</u></p> <hr style="border-top: 1px dashed black;"/> <p>EXAMPLE:</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>EXAMPLE:</p> <div style="text-align: center;">  </div> </div> <div> <p>$m\angle TQR = \underline{28^\circ}$</p> </div> </div>	<div style="text-align: center;">  </div>

Proofs using SAP/AAP:

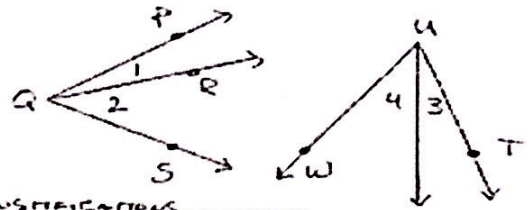
13. GIVEN: $\overline{QR} = \overline{SR}$
 PROVE: $\overline{PQ} + \overline{SR} = \overline{PR}$



CONCLUSIONS	JUSTIFICATIONS
<p>0. $QR = SR$</p> <p>1. $PQ + QR = PR$</p> <p>2. $PQ + SR = PR$</p>	<p>0. Given</p> <p>1. SAP</p> <p>2. Substitution</p>

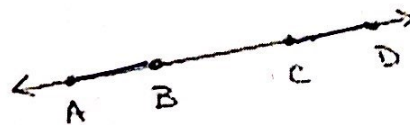
H. Geometry - Chapter 2 - Definition Sheet

14. GIVEN: $\angle PQS \cong \angle TUW$
 $m\angle 1 = m\angle 3$
 PROVE: $\angle 2 \cong \angle 4$



CONCLUSIONS	JUSTIFICATIONS
1. $\angle PQS \cong \angle TUW$ $m\angle 1 = m\angle 3$	1. Given
2. $m\angle PQS = m\angle TUW$	2. Defn. of $\cong \angle$'s
3. $m\angle 1 + m\angle 2 = m\angle PQS$ $m\angle 3 + m\angle 4 = m\angle TUW$	3. AAP
4. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	4. Substitution
5. $m\angle 2 = m\angle 4$	5. Addition POE
6. $\angle 2 \cong \angle 4$	6. Defn. of $\cong \angle$'s

17. GIVEN: $\overline{AC} \cong \overline{BD}$
 PROVE: $\overline{AB} \cong \overline{CD}$



CONCLUSIONS	JUSTIFICATIONS
1. $\overline{AC} \cong \overline{BD}$	1. Given
2. $AC = BD$	2. Defn of \cong segments
3. $AB + BC = AC$ $BC + CD = BD$	3. SAP
4. $AB + BC = BC + CD$	4. Substitution
5. $BC = BC$	5. Reflexive POE
6. $AB = CD$	6. Addition POE
7. $\overline{AB} \cong \overline{CD}$	7. Defn. of \cong segments.