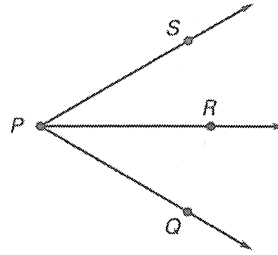


Complete each of the following by supplying the missing statements and reasons.

1. Given: $m\angle RPQ = m\angle RPS$
Prove: $m\angle SPQ = 2m\angle RPQ$



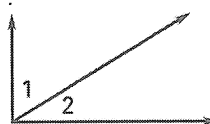
Statements	Reasons
1. $m\angle RPQ = m\angle RPS$	1. Given
2. $m\angle SPQ = m\angle SPR + m\angle RPQ$	2. Angle Add. Post
3. $m\angle SPQ = m\angle RPQ + m\angle RPQ$	3. Subst.
4. $m\angle SPQ = 2m\angle RPQ$	4. Simplify

2. Given: $MA = TH$
Prove: $MT = AH$



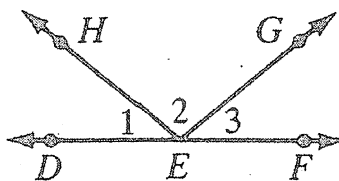
Statements	Reasons
1. $MA = TH$	1. Given
2. $AT = AT$	2. Reflexive Prop. of Eq.
3. $MA + AT = AT + TH$	3. Add Prop. of Eq.
4. $MA + AT = MT$ $AT + TH = AH$	4. Segment Add Post
5. $MT = AH$	5. Substitution Prop. of Eq.

3. Given: $m\angle 1 + m\angle 2 = 90^\circ$
 $m\angle 1 = 59^\circ$
 Prove: $m\angle 2 = 31^\circ$



Statements	Reasons
1. $m\angle 1 + m\angle 2 = 90^\circ$ $m\angle 1 = 59^\circ$	1. Given
2. $m\angle 2 = 90^\circ - m\angle 1$	2. Subtr. Prop of Eq.
3. $m\angle 2 = 90^\circ - 59^\circ$	3. Subst.
4. $m\angle 2 = 31^\circ$	4. Simplify

4. Given: $m\angle 1 = m\angle 3$
 Prove: $m\angle DEG = m\angle HEF$



Statements	Reasons
1. $m\angle 1 = m\angle 3$	1. Given
2. $m\angle 2 = m\angle 2$	2. Refl Prop
3. $m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$	3. Add Prop. of Eq.
4. $m\angle DEG = m\angle 1 + m\angle 2$ $m\angle HEF = m\angle 2 + m\angle 3$	4. Angle Add Post
5. $m\angle DEG = m\angle HEF$	5. Subst. Prop. Of Eq.

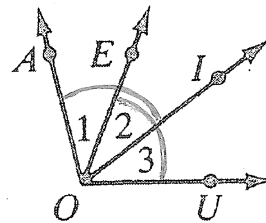
5. Given: $KP = ST$
 $PR = TV$

Prove: $KR = SV$



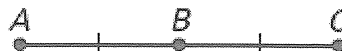
Statements	Reasons
1. $KP = ST$ $PR = TV$	1. Given
2. $KP + PR = ST + TV$	2. Add Prop of Eq.
3. $KP + PR = KR$ $ST + TV = SV$	3. Segment Add. Post.
4. $KR = SV$	4. Subst-Prop of Eq.

6. Given: $m\angle AOI = m\angle EOU$
 Prove: $m\angle 1 = m\angle 3$



Statements	Reasons
1. $m\angle AOI = m\angle EOU$	1. Given
2. $m\angle AOI = m\angle 1 + m\angle 2$ $m\angle EOU = m\angle 2 + m\angle 3$	2. Angle Add. Post.
3. $m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$	3. Subst
4. $m\angle 2 = m\angle 2$	4. Reflexive
5. $m\angle 1 = m\angle 3$	5. Subtraction

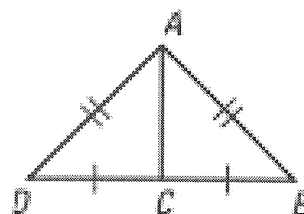
7. Given: $AB = BC$
 Prove: $AC = 2BC$



Statements	Reasons
1. $AB = BC$	1. Given
2. $AC = AB + BC$	2. Segment Add Post
3. $AC = BC + BC$	3. Subst
4. $AC = 2BC$	4. Simplify

8. Given: $AD = AB$
 $DC = CB$

Prove: Perimeter of $\triangle ABC =$ Perimeter of $\triangle ADC$



Statements	Reasons
1. $AD = AB, DC = CB$	1. Given
2. $AC = AC$	2. Refl Prop.
3. $AD + DC + AC = AB + CB + AC$	3. Addition Prop. of Eq.
4. $P_{\triangle ABC} = AB + CB + AC$ $P_{\triangle ADC} = AD + DC + AC$	4. Definition of a Perimeter
5. $P_{\triangle ABC} = P_{\triangle ADC}$	5. Subst