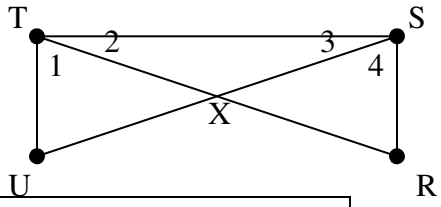
Practice Proofs

Proof #1:

Given: $\overline{ST} \perp \overline{TU}$; < RST is a right angle; < 2 ≅ < 3

Prove: < 1 ≅ < 4

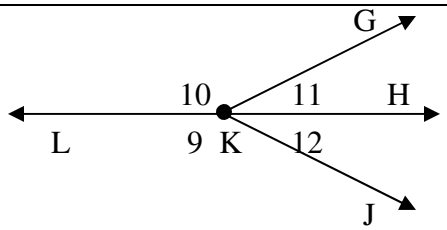


Statement	Reason
1) < RST is a right angle	
2) $\overline{SR} \perp \overline{ST}$	
3) < 3 and < 4 are complementary < s	
4) $\overline{ST} \perp \overline{TU}$	
5) < 1 and < 2 are complementary < s	
6) < 2 ≅ < 3	
7) < 1 ≅ < 4	

Proof #2:

Given: $\overrightarrow{KH}$ bisects < GKJ

Prove: < 9 ≅ < 10

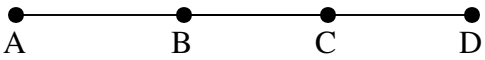


Statements	Reasons
1) $\overrightarrow{KH}$ bisects < GKJ	
2) < 11 ≅ < 12	
3) < 10 and < 11 are supplements < 9 and < 12 are supplements	
4) < 9 ≅ < 10	

Proof #3:

Given: AC = BD

Prove: AB = CD

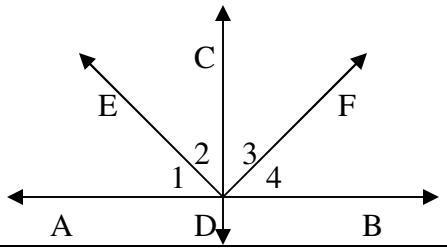


Statements	Reasons
1) AC = BD	
2) AB + BC = AC BC + CD = BD	
3) AB + BC = BC + CD	
4) BC = BC	
5) AB = CD	

Proof #4:

Given: $\overleftrightarrow{CD} \perp \overleftrightarrow{AB}$; $\angle 1 \cong \angle 4$

Prove: $\angle 2 \cong \angle 3$

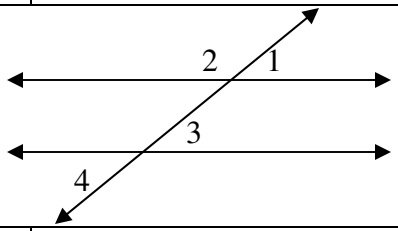


Statements	Reasons
1) $\overleftrightarrow{CD} \perp \overleftrightarrow{AB}$	
2) $\angle 1$ and $\angle 2$ are complements $\angle 3$ and $\angle 4$ are complements	
3) $\angle 1 \cong \angle 4$	
4) $\angle 2 \cong \angle 3$	

Proof #5:

Given: $\angle 1 \cong \angle 3$

Prove: $\angle 1 \cong \angle 4$

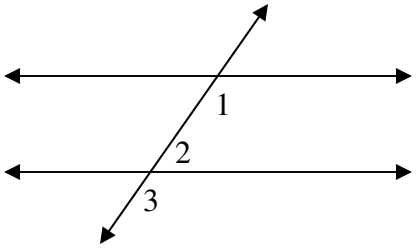


Statements	Reasons
1) $\angle 1 \cong \angle 3$	
2) $\angle 3 \cong \angle 4$	
3) $\angle 1 \cong \angle 4$	

Proof #6:

Given: $\angle 1 \cong \angle 3$

Prove: $\angle 1$ and $\angle 2$ are supplementary

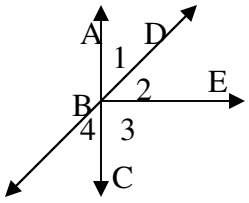


Statements	Reasons
1) $\angle 1 \cong \angle 3$	
2) $m\angle 3 + m\angle 2 = 180°$	
3) $m\angle 1 + m\angle 2 = 180°$	
4) $\angle 1$ and $\angle 2$ are supplementary	

Proof #7:

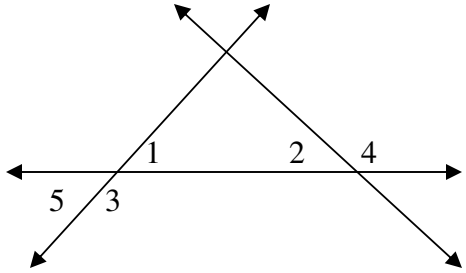
Given: $\overrightarrow{BD}$ bisects $\angle ABE$

Prove: $\angle 2 \cong \angle 4$



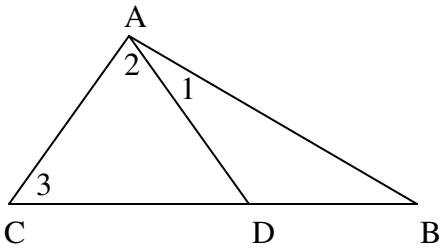
Statements	Reasons
1) $\overrightarrow{BD}$ bisects $\angle ABE$	
2) $\angle 1 \cong \angle 2$	
3) $\angle 1 \cong \angle 4$	
4) $\angle 2 \cong \angle 4$	

Proof #8:
Given: m< 1 = m< 2
Prove: < 4 is supplementary to < 5



Statements	Reasons
1) m< 1 = m< 2	
2) m< 1 = m< 5	
3) m< 2 = m< 5	
4) m< 2 + m< 4 = 180°	
5) m< 5 + m< 4 = 180°	
6) < 4 is supplementary to < 5	

Proof #9:
Given: $\overline{BA} \perp \overline{AC}$; < 1 is complementary to < 3
Prove: m< 2 = m< 3



Statements	Reasons
1) $\overline{BA} \perp \overline{AC}$	
2) < 1 and < 2 are complementary	
3) < 1 and < 3 are complementary	
4) m< 1 + m< 2 = 90° m< 1 + m< 3 = 90°	
5) m< 1 + m< 2 = m< 1 + m< 3	
6) m< 1 = m< 1	
7) m< 2 = m< 3	