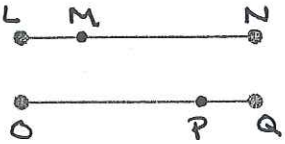
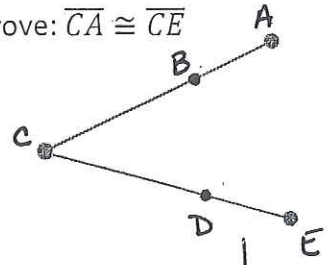
Geometry Chapter 2 Practice Test – Proofs Name:_____

1) Given: $\overline{LM} \cong \overline{QP}$
$\overline{LN} \cong \overline{QO}$
Prove: $\overline{MN} \cong \overline{PO}$



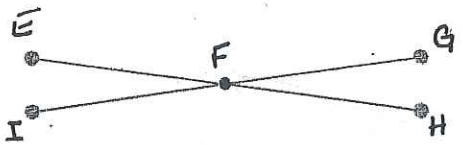
Statements	Reasons
1) $\overline{LM} \cong \overline{QP}$, $\overline{LN} \cong \overline{QO}$	1) Given
2) $LM = QP$, $LN = QO$	2) Def of $\cong$
3) $LM + MN = LN$, $OP + PQ = OQ$	3) Seg Add Post
4) $LM + MN = OP + PQ$	4) Substitution
5) $QP + MN = OP + PQ$	5) Substitution
6) $QP - QP + MN = OP + PQ - PQ$	6) Subtraction
7) $MN = OP$	7) Substitution
8) $\overline{MN} \cong \overline{OP}$	8) Def of $\cong$

2) Given: $\overline{CB} \cong \overline{CD}$ and $\overline{BA} \cong \overline{DE}$
Prove: $\overline{CA} \cong \overline{CE}$



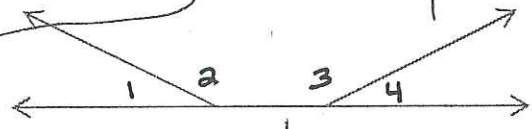
Statements	Reasons
1) $\overline{CB} \cong \overline{CD}$ and $\overline{BA} \cong \overline{DE}$	1) Given
2) $CB = CD$, $BA = DE$	2) Def of $\cong$
3) $CB + BA = CA$, $CD + DE = CE$	3) Seg Add Post
4) $CD + DE = CA$	4) Substitution
5) $CA = CE$	5) Substitution / transitive
6) $\overline{CA} \cong \overline{CE}$	6) Def of $\cong$

3) Given: F is the midpoint of $\overline{EH}$
F is the midpoint of $\overline{IG}$
$\overline{EF} \cong \overline{FG}$
Prove: $\overline{IF} \cong \overline{HF}$



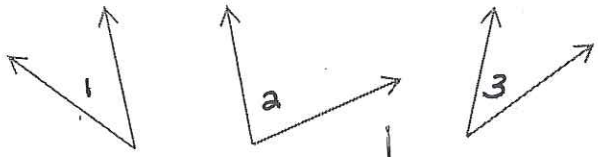
Statements	Reasons
1) F is mp of $\overline{EH}$, $\overline{EF} \cong \overline{FG}$, F is mp of $\overline{IG}$	1) Given
2) $EF = FG$	2) Def of $\cong$
3) $EF = FH$, $IF = FG$	3) Def of midpoint
4) $FG = FH$	4) Substitution
5) $IF = FH$	5) Transitive
6) $\overline{IF} \cong \overline{FH}$	6) Def of $\cong$

4) Given: $\angle 1$ and $\angle 2$ form a linear pair
$\angle 3$ and $\angle 4$ form a linear pair
Prove: $\angle 1 \cong \angle 4$



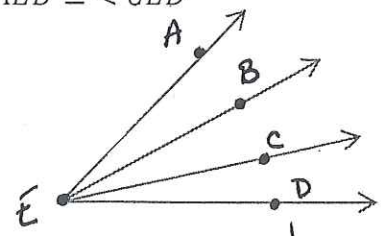
Statements	Reasons
1) $\angle 1$ & $\angle 2$ form linear pair, $\angle 3$ & $\angle 4$ " ", $\angle 1 \cong \angle 4$	Given
2) $m\angle 1 = m\angle 4$	2) Def of $\cong$
3) $m\angle 3 + m\angle 4 = 180$, $m\angle 1 + m\angle 2 = 180$	3) Def of linear pair
4) $m\angle 3 + m\angle 4 = m\angle 1 + m\angle 2$	4) Substitution
5) $m\angle 3 + m\angle 1 = m\angle 1 + m\angle 2$	5) Substitution
6) $m\angle 3 + m\angle 1 - m\angle 1 = m\angle 1 - m\angle 1 + m\angle 2$	6) Subtraction
7) $m\angle 3 = m\angle 2$	7) Subst
8) $\angle 3 \cong \angle 2$	8) def of $\cong$ / 8) Subs

5) Given: < 1 and < 2 are complementary
< 2 and < 3 are complementary
Prove: < 1 ≅ < 3



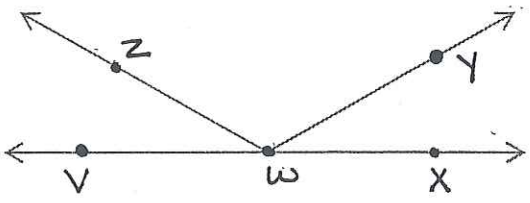
Statements	Reasons
1) ∠1 & ∠2 are comp ∠2 & ∠3 are comp	1) Given
2) m∠1 + m∠2 = 90 m∠2 + m∠3 = 90	2) Def of comp ∠s
3) m∠1 + m∠2 = m∠2 + m∠3	3) Substitution
4) m∠1 + m∠2 - m∠2 = m∠2 - m∠2 + m∠3	4) Subtraction
5) m∠1 = m∠3	5) Substitution
6) ∠1 ≅ ∠3	6) Def of ≅

6) Given: $\overrightarrow{EB}$ bisects < AEC
$\overrightarrow{EC}$ bisects < BED
Prove: $< AEB \cong < CED$



Statements	Reasons
1) $\overrightarrow{EB}$ bisects ∠AEC $\overrightarrow{EC}$ bisects ∠BED	1) Given
2) ∠AEB ≅ ∠BEC ∠BEC ≅ ∠CED	2) Def of ∠ bisect
3) ∠AEB ≅ ∠CED	3) Transitive

7) Given: $< VWY \cong < XWZ$
Prove: $< VWZ \cong < XWY$



Statements	Reasons
1) ∠VWY ≅ ∠XWZ	1) Given
2) m∠VWY = m∠XWZ	2) Def of ≅
3) m∠VWZ + m∠ZWY = m∠VWY m∠XWY + m∠YWZ = m∠XWZ	3) Angle Add Post
4) m∠VWZ + m∠ZWY = m∠XWY + m∠YWZ	4) Substitution
5) m∠VWZ + m∠ZWY - m∠YWZ = m∠XWY + m∠YWZ - m∠YWZ	5) Subtraction
6) m∠VWZ = m∠XWY	6) Substitution
7) ∠VWZ ≅ ∠XWY	7) Def of ≅