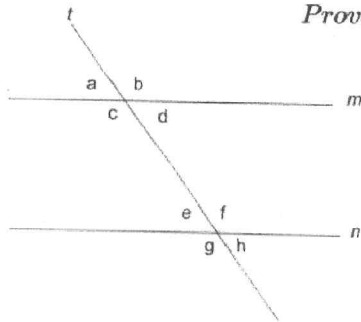


Given : $m \parallel n$

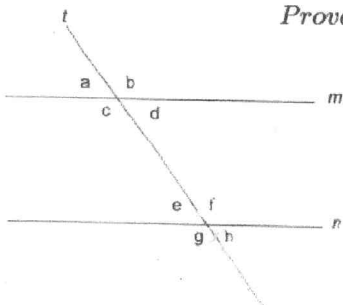
Prove : $\angle c$ and $\angle f$ are congruent



Steps	Justifications
1) $m \parallel n$	1) Given
2) $\angle c \cong \angle g$	2) Corresponding Angle Theorem
3) $\angle g \cong \angle f$	3) Vertical Angle Theorem
4) $\angle c \cong \angle f$	4) Transitive Property

Given : $m \parallel n$

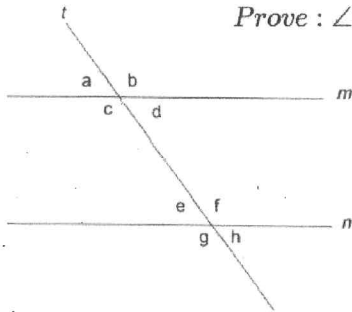
Prove : $\angle b$ and $\angle g$ are congruent



Steps	Justification
1) $m \parallel n$	1) Given
2) $\angle b \cong \angle f$	2) Corresponding angle Theorem
3) $\angle f \cong \angle g$	3) Vertical Angle Theorem
4) $\angle b \cong \angle g$	4) Transitive Property Transitive Property of congruence.

Given : $m \parallel n$

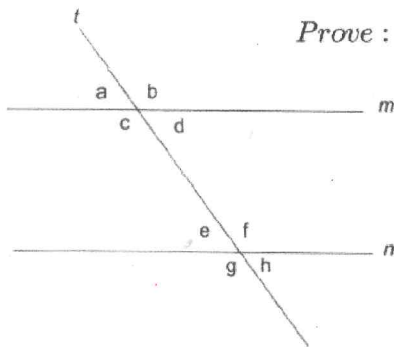
Prove : $\angle a$ and $\angle g$ are supplementary



Steps	Justifications
1) $m \parallel n$	1) Given
2) $\angle a$ and $\angle c$ are a linear pair	2) Diagram
3) $\angle a$ and $\angle c$ are supplementary	3) Linear Pair Theorem
4) $m\angle a + m\angle c = 180$	4) Def. of supplementary angles
5) $\angle a \cong \angle e$ $\angle c \cong \angle g$	5) Corresponding angle theorem
6) $m\angle c = m\angle g$	6) Def. of congruent angles
7) $m\angle a + m\angle c = 180$ $m\angle a + m\angle g = 180$	7) Substitution
8) $\angle a$ and $\angle g$ are supplementary	8) Def. of supplementary angles

Given : $m \parallel n$

Prove : $\angle d$ and $\angle f$ are supplementary



Steps	Justifications
1) $m \parallel n$	1) Given
2) $\angle c$ and $\angle d$ form a linear pair	2) Diagram
3) $\angle c$ and $\angle d$ are a linear pair	3) Linear Pair theorem
4) $m\angle c + m\angle d = 180$	4) Definition of supplementary angles
5) $\angle c \cong \angle e$ $\angle f \cong \angle c$	5) Vertical angle theorem
6) $m\angle f = m\angle c$	6) Definition of congruent angles
7) $m\angle f + m\angle d = 180$	7) Substitution
$m\angle f + m\angle d = 180$	
8) $\angle f$ and $\angle d$ are supplementary.	8) Definition of supplementary angles