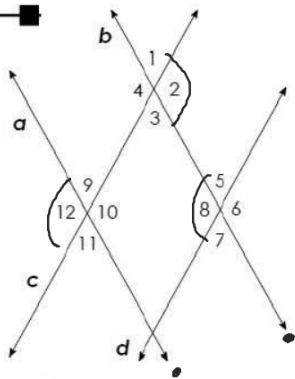


PROOF I

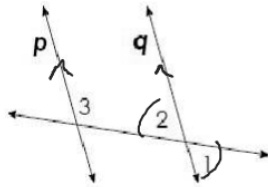


Given: $c \parallel d$, $\angle 12 \cong \angle 8$

Prove: $a \parallel b$

Statement	Reason
1) $c \parallel d$ $\angle 12 \cong \angle 8$	1) Given
2) $\angle 8 \cong \angle 2$	2) Alternate Interior \angle 's \cong
3) $\angle 12 \cong \angle 2$	3) Substitution prop.
4) $a \parallel b$	4) If Alternate Exterior \angle 's \cong Lines are \parallel .

PROOF 4



Given: $\angle 1$ and $\angle 3$ are supplementary

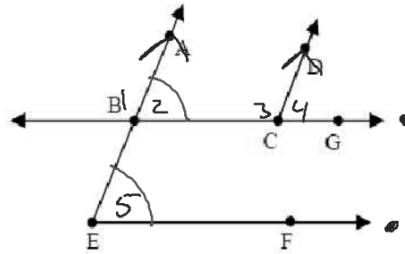
Prove: $p \parallel q$

Statement	Reason
1) $\angle 1$ & $\angle 3$ are Supplementary	1) Given
2) $\angle 1 \cong \angle 2$	2) Vertical \angle 's
3) $m\angle 1 + m\angle 3 = 180$	3) Def of Supplementary \angle 's.
4) $m\angle 2 + m\angle 3 = 180$	4) Substitution prop.
5) $\angle 2$ & $\angle 3$ are SUPP	5) Def of Supp \angle 's
6) $p \parallel q$	6) If same-side Interior \angle 's are Supp then lines are \parallel .

Given: $m\angle BCD + m\angle BEF = 180^\circ$, $\overline{AB} \parallel \overline{DC}$

Prove: $\overline{BC} \parallel \overline{EF}$

$$m\angle 3 + m\angle 5 = 180$$



Statement	Reason
1) $m\angle 3 + m\angle 5 = 180$	1) Given
$\overline{AB} \parallel \overline{DC}$	
2) $\angle 2 + \angle 3$ are Supp	2) Same-side Interior \angle 's Supp.
3) $m\angle 2 + m\angle 3 = 180$	3) Def of Supp \angle 's.
4) $m\angle 2 + m\angle 5 = m\angle 3 + m\angle 5$ $-m\angle 3$ $+m\angle 3$	4) Substitution prop
5) $m\angle 2 = m\angle 5$	5) Subtraction prop
6) $\overline{BC} \parallel \overline{EF}$	6)