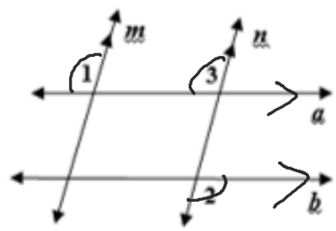
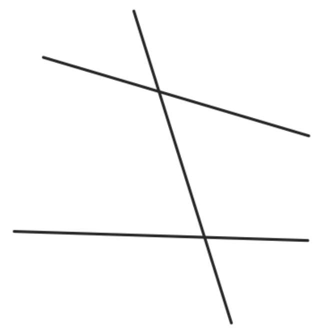
Given: $m \parallel n$
$\angle 1 \cong \angle 2$

Prove: $a \parallel b$

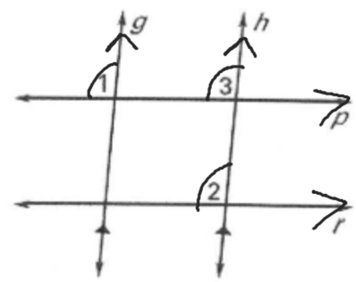




Statements	Reasons
1. $m \parallel n$	1. Given
2. $\angle 1 \cong \angle 3$	2. Corresponding ∠'s ≅
3. $\angle 1 \cong \angle 2$	3. Given
4. $\angle 3 \cong \angle 2$	4. Substitution prop.
5. $a \parallel b$	5. Converse of Alternate Exterior ∠'s

3. **GIVEN:** $g \parallel h$, $\angle 1 \cong \angle 2$
PROVE: $p \parallel r$

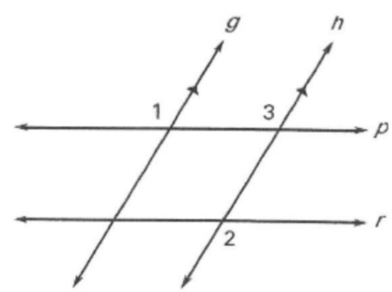
Statements	Reasons
1. $g \parallel h$, $\angle 1 \cong \angle 2$	1. Given
2. $\angle 1 \cong \angle 3$	2. Corresponding $\angle$'s $\cong$
3. $\angle 2 \cong \angle 3$	3. Substitution
4. $p \parallel r$	4. Converse of Corresponding $\angle$'s.



9. **GIVEN:** $g \parallel h$, $\angle 1 \cong \angle 2$

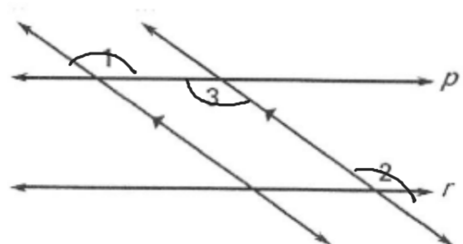
PROVE: $p \parallel r$

Statements	Reasons



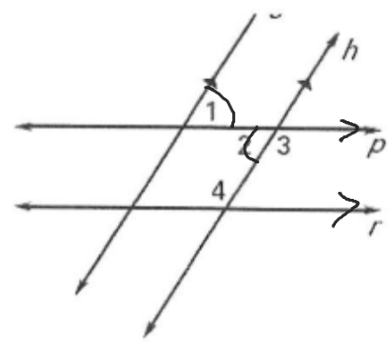
10. **GIVEN:** $n \parallel m$, $\angle 1 \cong \angle 2$

PROVE: $p \parallel r$



Statements	Reasons
1) $n \parallel m$, $\angle 1 \cong \angle 2$	1) Given
2) $\angle 1 \cong \angle 3$	2) Alternate Int $\angle$'s
3) $\angle 2 \cong \angle 3$	3) Substitution prop
4) $p \parallel r$	4) Converse Alternate Interior $\angle$'s

11. **GIVEN:** $g \parallel h$, $\angle 1$ and $\angle 4$ are supplementary
PROVE: $p \parallel r$

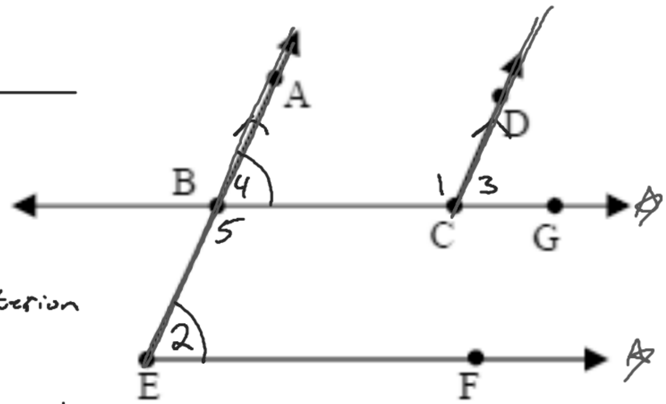


Statements	Reasons
1) $g \parallel h$, $\angle 1 + \angle 4$ are Supplementary	1) Given
2) $\angle 1 \cong \angle 2$	2) Alternate Interior $\angle$'s
3) $m\angle 1 + m\angle 4 = 180$	3) Def of Supp. $\angle$'s
4) $m\angle 2 + m\angle 4 = 180$	4) Substitution prop.
5) $\angle 2 + \angle 4$ are supp	5) Def of Supp $\angle$'s
6) $p \parallel r$	6) Converse of Same-Side-Interior

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

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

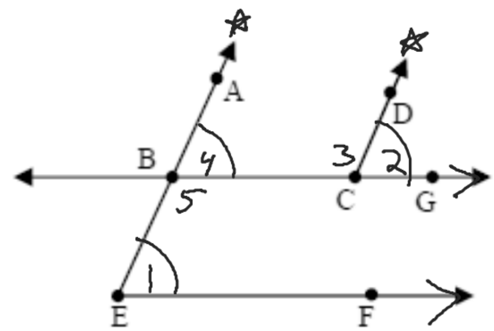
Statement	Reason
1) $m\angle 1 + m\angle 2 = 180$ $\overline{AB} \parallel \overline{DC}$	1) Given
2) $\angle 1 + \angle 4$ are Supp	2) Same side Interior $\angle$'s
3) $\angle 2 \cong \angle 4$	3) Congruent Supplement theorem.



$m\angle + m\angle 4 = 180$

$\cancel{m\angle 1} + m\angle 2 = \cancel{m\angle 1} + m\angle 4$

Given: $\overline{BC} \parallel \overline{EF}$, $\angle BEF \cong \angle DCG$
Prove: $\overline{AB} \parallel \overline{DC}$



Statement	Reason
1) $\overline{BC} \parallel \overline{EF}$ $\angle 1 \cong \angle 2$	1) Given
2) $\angle 1 \cong \angle 4$	2) Corresponding $\angle$'s
3) $\angle 2 \cong \angle 4$	3) Substitution
4) $\overline{AB} \parallel \overline{DC}$	4) Converse of Corresponding $\angle$'s

Given: $l \perp n$, $m \perp n$

Prove: $\angle 3$ and $\angle 6$ are supplementary