Corresponding Angles Postulate: If lines are parallel, then the corresponding ∠'s are ≅.

Converse of Corresponding Angles Postulate:

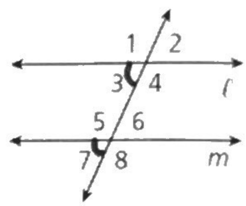
If corresponding ∠'s are ≅, then the lines are parallel.

Given: $m\angle 3 = (4x - 80)^\circ$, $m\angle 7 = (3x - 50)^\circ$, $x = 30$

Prove: $\ell \parallel m$

$m\angle 3 = 4(30) - 80 = 40^\circ$

$m\angle 7 = 3(30) - 50 = 40^\circ$



* converse of corresponding ∠'s.

Converse of Alternate Interior Angles Theorem: If alt int ∠'s are ≅, then lines are //.

Converse of Alternate Exterior Angles Theorem: If alt ext. ∠'s are ≅, then lines are //.

Converse of Same Side Interior Angles Theorem: If same side int ∠'s are supplementary, then lines are //.

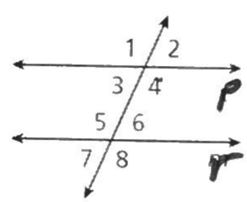
Name the postulate or theorem that proves *p* || *r*.

1) $\angle 4 \cong \angle 5$ Converse of Alt. Int ∠'s

2) $\angle 2 \cong \angle 7$ Converse of Alt. Ext ∠'s

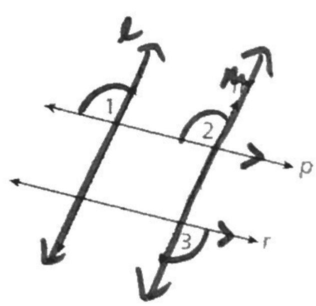
3) $\angle 3 \cong \angle 7$ converse of corresponding ∠'s

4) $\angle 3$ and $\angle 5$ are supplementary Converse of same side interior ∠'s.



Given: $p \parallel r$, $\angle 1 \cong \angle 3$

Prove: $\ell \parallel m$



Statement	Reason
① $p \parallel r$	① Given
② $\angle 2 \cong \angle 3$	② Alt Ext. ∠'s
③ $\angle 1 \cong \angle 3$	③ Given
④ $\angle 1 \cong \angle 2$	④ Transitive prop.
⑤ $\ell \parallel m$	⑤ conv. of corresponding ∠'s.