Corollary: If 2 angles of one $\triangle$ are $\cong$ to 2 $\angle$s of another $\triangle$, then the 3rd $\angle$s are $\cong$.

Given: $\angle A \cong \angle D$, $\angle B \cong \angle E$

Prove: $\angle C \cong \angle F$

① $m\angle A + m\angle B + m\angle C = 180$
② $\angle A \cong \angle D \rightarrow$ ③ $m\angle A = m\angle D$
→ ④ $m\angle D + m\angle B + m\angle C = 180$

⑤ $\angle B \cong \angle E \rightarrow$ ⑥ $m\angle B = m\angle E$

⑦ $m\angle D + m\angle E + m\angle C = 180$
⑧ $m\angle D + m\angle E + m\angle F = 180$
→ ⑨ $m\angle D + m\angle E + m\angle C = m\angle D + m\angle E + m\angle F$

⑩ $m\angle C = m\angle F \rightarrow$ ⑪ $\angle C \cong \angle F$

① Sum of meas. of $\angle$s of $\triangle = 180$.
② Given
③ Def of $\cong$ $\angle$s
④ Substitution
⑤ Given
⑥ Def of $\cong$ $\angle$s
⑦ Substitution
⑧ Sum of meas. of $\angle$s of $\triangle = 180$.
⑨ Substitution
⑩ Subtraction Property
⑪ Def of $\cong$ $\angle$s