Given: $\overline{AE} \parallel \overline{BF}$; $\overline{CE} \parallel \overline{DF}$; $\overline{AB} \cong \overline{CD}$

Prove: $\triangle AEC \cong \triangle BFD$

Kyley McDonald — Proof II

1. $\overline{AE} \parallel \overline{BF}$; $\overline{CE} \parallel \overline{DF}$; $\overline{AB} \cong \overline{CD}$	→ Given
2. $\angle EAC \cong \angle FBD$	→ Corr. Ang. Post.
3. $\angle ECA \cong \angle FDB$	→ Corr. Ang. Post.
4. $AB = CD$	→ Def. of Congruence
5. $AB + BC = AC$	→ Seg. Add. Post.
6. $CD + BC = BD$	→ Seg. Add. Post.
7. $AB + BC = BD$	→ Substitution
8. $AC = BD$	→ Substitution
9. $\overline{AC} \cong \overline{BD}$	→ Def. of Congruence
10. $\triangle AEC \cong \triangle BFD$	→ ASA ≅ Post.

DIAGRAM: