

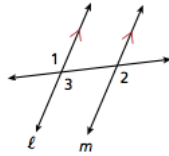
2-Column Proofs Proving Lines Parallel

Complete the two-column proof of the Alternate Exterior Angles Theorem.

Given: $\ell \parallel m$

Prove: $\angle 1 \cong \angle 2$

Proof:



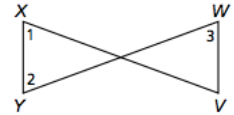
Statements	Reasons
1. $\ell \parallel m$	1. Given
2. a. ?	2. Vert. \angle Thm.
3. $\angle 3 \cong \angle 2$	3. b. ?
4. c. ?	4. d. ?

Complete the following two-column proof.

Given: $\angle 1 \cong \angle 2, \angle 3 \cong \angle 1$

Prove: $XY \parallel WV$

Proof:



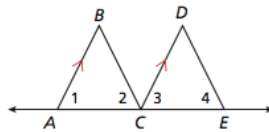
Statements	Reasons
1. $\angle 1 \cong \angle 2, \angle 3 \cong \angle 1$	1. Given
2. $\angle 2 \cong \angle 3$	2. a. ?
3. b. ?	3. c. ?

Complete the following two-column proof.

Given: $\overline{AB} \parallel \overline{CD}, \angle 1 \cong \angle 2, \angle 3 \cong \angle 4$

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

Proof:



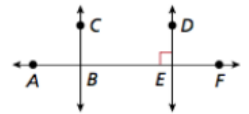
Statements	Reasons
1. $\overline{AB} \parallel \overline{CD}$	1. Given
2. $\angle 1 \cong \angle 3$	2. a. ?
3. $\angle 1 \cong \angle 2, \angle 3 \cong \angle 4$	3. b. ?
4. $\angle 2 \cong \angle 4$	4. c. ?
5. d. ?	5. e. ?

Complete the two-column proof.

Given: $\angle ABC \cong \angle CBE, \overline{DE} \perp \overline{AF}$

Prove: $\overline{CB} \parallel \overline{DE}$

Proof:



Statements	Reasons
1. $\angle ABC \cong \angle CBE$	1. Given
2. $\overline{CB} \perp \overline{AF}$	2. a. ?
3. b. ?	3. Given
4. $\overline{CB} \parallel \overline{DE}$	4. c. ?

Complete the two-column proof below.

Given: $\overline{AB} \perp \overline{BC}, m\angle 1 + m\angle 2 = 180^\circ$

Prove: $\overline{BC} \perp \overline{CD}$

Proof:



Statements	Reasons
1. $\overline{AB} \perp \overline{BC}$	1. Given
2. $m\angle 1 + m\angle 2 = 180^\circ$	2. a. ?
3. $\angle 1$ and $\angle 2$ are supplementary.	3. Def. of supplementary
4. b. ?	4. Converse of the Same-Side Interior Angles Theorem
5. $\overline{BC} \perp \overline{CD}$	5. c. ?