

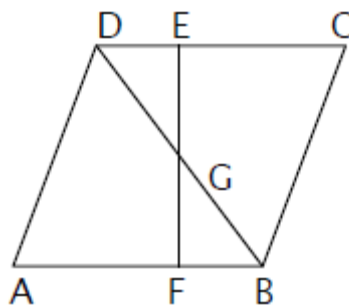
Double proofs

Name: _____

1. This proof will introduce you to the notion of a double proof: proving one set of triangles congruent in order to prove a second set congruent.

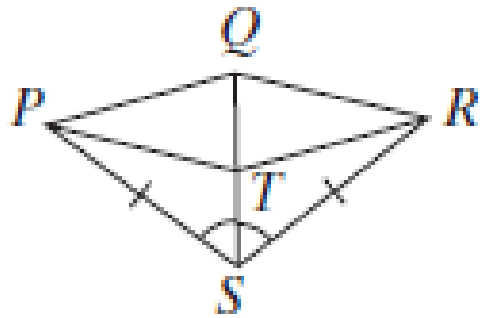
Given: $\overline{AD} \cong \overline{CB}, \overline{DC} \cong \overline{BA}$
 \overline{EF} bisects \overline{BD} at G

Prove: $\left\{ \begin{array}{l} (a) \triangle ADB \cong \triangle CBD \\ (b) \angle ABD \cong \angle CDB \\ (c) \overline{FG} \cong \overline{EG} \end{array} \right.$



1.	1.	
2.	2.	
3.	3.	
4.	4.	
5.	5.	
6.	6.	
7.	7.	
8.	8.	
9.	9.	
10.	10.	
11.	11.	

2. Another double. Start with two triangles that you know a lot about. Move to the triangles that contain the side or angles you want to prove congruent by using the sides or angles that overlap with the first set of triangles.



Given: $\overline{PS} \cong \overline{RS}$, $\angle PSQ \cong \angle RSQ$
Prove: $\triangle QPT \cong \triangle QRT$

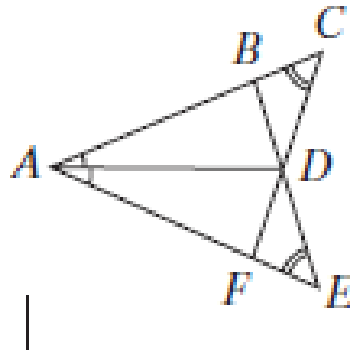
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.
11.	11.

3.

Write a two-column proof.

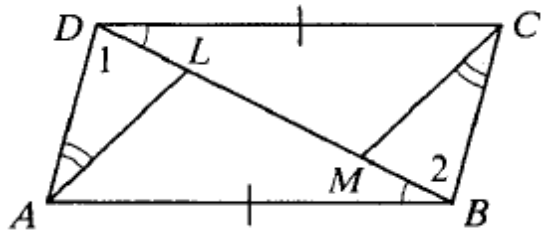
Given: $\angle CAD \cong \angle EAD$, $\angle C \cong \angle E$

Prove: $\overline{BD} \cong \overline{FD}$



1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.
11.	11.
12.	12.
13.	13.

4. Prove: $\overline{AL} \cong \overline{CM}$



1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.
11.	11.
12.	12.