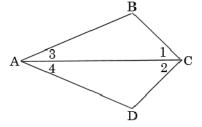
## Congruent Triangles 11 – Congruent Triangle Proofs 3

4.11

5. Given:  $\angle 1 \cong \angle 2$ 

 $\angle 3\cong \angle 4$ 

Prove:  $\overline{AB} \cong \overline{AD}$ 

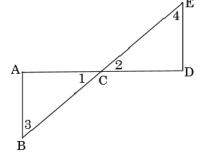


	STATEMENTS	REASONS
1.	∠1 ≅ ∠2	1.
2.	$\angle 3\cong \angle 4$	2.
3.	$\overline{AC}\cong\overline{AC}$	3.
4.	$\Delta ABC \cong \angle ADC$	4.
5.	$\overline{AB}\cong\overline{AD}$	5. Corresponding parts of $\cong \Delta s$ are $\cong$

6. Given: ∠A and ∠D are right angles

C is midpoint of  $\overline{AD}$ 

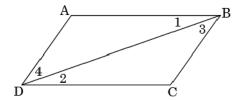
 $\mathrm{Prove} \colon \ \overline{BC} \cong \overline{CE}$ 



STATEMENTS	REASONS
<ol> <li>∠A and ∠D are right angles</li> <li>C is midpoint of AD</li> </ol>	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

7. Given:  $\overline{AB} \cong \overline{DC}$  $\overline{AD} \cong \overline{BC}$ 

Prove:  $\overline{AB} \parallel \overline{DC}$ 

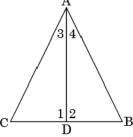


STATEMENTS	REASONS
1.	1. Given
2.	2. Given
$3.  \overline{\mathbf{B}}\overline{\mathbf{D}} \cong \overline{\mathbf{B}}\overline{\mathbf{D}}$	3.
4. $\triangle ABD \cong \triangle CDB$	4.
5. ∠1 ≅ ∠2	5.
6. <b>AB</b>    <b>DC</b>	6.

8. Given:  $\overline{AD} \perp \overline{BC}$ 

 $\boldsymbol{D}$  is midpoint of  $\overline{\boldsymbol{CB}}$ 

Prove:  $\overline{AD}$  is angle bisector of  $\angle CAB$ 



STATEMENTS	REASONS
1. $\overline{AD} \perp \overline{BC}$ D is midpoint of $\overline{CB}$	1.
2. $\angle 1$ and $\angle 2$ are right $\angle s$	2.
$3  \overline{\mathbf{CD}} \cong \overline{\mathbf{DB}}$	3.
$4.  \overline{\mathbf{A}}\overline{\mathbf{D}} \cong \overline{\mathbf{A}}\overline{\mathbf{D}}$	4.
5.	5.
6.	6.
7.	7.
8	8.