


Prove Statements about Segments and Angles

Vocabulary	Definition		Example	
			Statements	Reasons
PROOF	A proof is a logical argument that shows a statement is true.		1.	1. GIVEN
TWO-COLUMN PROOF	A two-column proof has numbered statements and corresponding reasons that show an argument in logical order.		2.	2.
			3.	3.
THEOREM	A theorem is a statement that can be proven.		4.	4.
			5.	5.
			<i>* the last statement is ALWAYS what you are trying to prove</i>	
 CONGRUENCE of SEGMENTS	Reflexive	For any segment $\overline{AB}$ , $\overline{AB} \cong \overline{AB}$ .		
	Symmetric	If $\overline{AB} \cong \overline{CD}$ , then $\overline{CD} \cong \overline{AB}$ .		
	Transitive	If $\overline{AB} \cong \overline{CD}$ and $\overline{CD} \cong \overline{EF}$ , then $\overline{AB} \cong \overline{EF}$ .		
CONGRUENCE of ANGLES	Reflexive	For any angle A, $\angle A \cong \angle A$		
	Symmetric	If $\angle A \cong \angle B$ , then $\angle B \cong \angle A$		
	Transitive	If $\angle A \cong \angle B$ and $\angle B \cong \angle C$ , then $\angle A \cong \angle C$		

example

$m \angle A = m \angle B$	$\angle A \cong \angle B$
Def. of $\cong$	Def. of $\cong$
$m \angle A = m \angle B$	$\angle A \cong \angle B$
Def. of $\cong$	Def. of $\cong$

Given:  $\angle 2 \cong \angle 3$   
 Prove:  $\angle 1 \cong \angle 4$

Statements	Reasons
1. $\angle 2 \cong \angle 3$	1. Given
2. $\angle 1 \cong \angle 2$	2. VA
3. $\angle 1 \cong \angle 3$	3. Transitive
4. $\angle 3 \cong \angle 4$	4. VA
5. $\angle 1 \cong \angle 4$	5. Transitive

