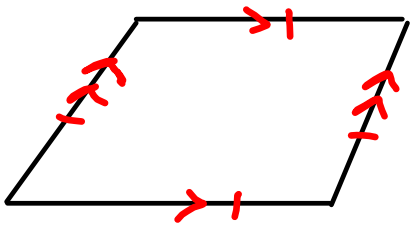
Proofs Quiz

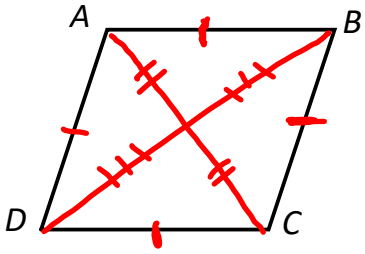
	Parallelogram	Rhombus	Rectangle	Square
Opposite sides parallel				
Opposite sides congruent				
Opposite angles congruent				
All sides congruent				
Diagonals form 2 congruent triangles				
Diagonals are congruent				
Diagonals are perpendicular				
Diagonals bisect each other				
Diagonals bisect opposite angles				
All angles are right angles				
Any pair of consecutive angles are supplementary				

A Rhombus is a parallelogram with four congruent sides



Given: *ABCD* is a rhombus

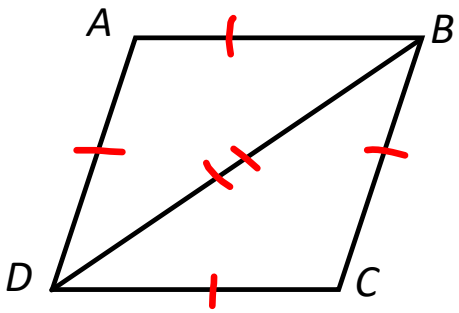
Prove: $\overline{AC} \perp \overline{BD}$



Statements	Reasons
1. ABCD is a rhombus	1. Given
2. $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$	2. Def. of rhombus
3. Draw $\overline{AC}$ and $\overline{BD}$	3. Any 2 pts form a line.
4. $\overline{BD}$ and $\overline{AC}$ bisect each other	4. Diagonals of //ogram bisect each other.
5. D is on the $\perp$ bis. of $\overline{AC}$.	5. PBT
6. $\overline{AC} \perp \overline{BD}$	6. Def. of $\perp$.

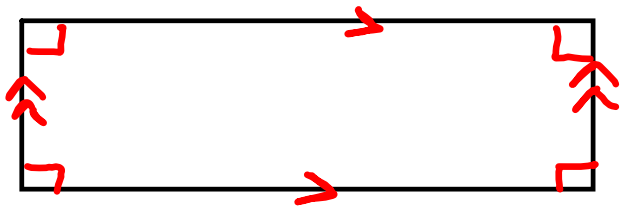
Given: *ABCD* is a rhombus

Prove: $\angle ADB \cong \angle CDB$ and $\angle ABD \cong \angle CBD$



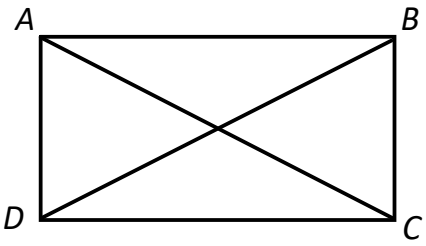
Statements	Reasons
1. ABCD is a rhombus	1. Given
2. $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$	2. Def. of rhombus
3. $\overline{BD} \cong \overline{BD}$	3. Reflexive Prop. of $\cong$.
4. $\triangle ABD \cong \triangle CBD$	4. SSS
5. $\angle ADB \cong \angle CDB$ $\angle ABD \cong \angle CBD$	5. CPCTC

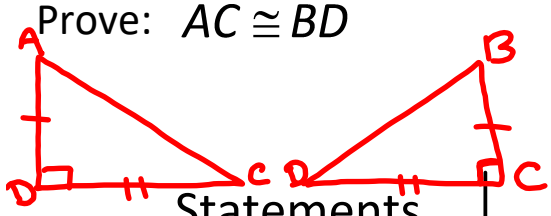
A Rectangle is a parallelogram with four right angles



Given: *ABCD* is a rectangle

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





Statements	Reasons
1. ABCD is a rectangle	1. Given
2. ∠ADC and ∠BCD are right ∠'s.	2. Def. of rect-∠
3. ∠ADC ≅ ∠BCD	3. All right ∠'s are ≅.
4. $\overline{AD} \cong \overline{BC}$	4. Opp. sides of a //-gram are ≅.
5. $\overline{DC} \cong \overline{DC}$	5. Reflexive Prop. of ≅.
6. △ADC ≅ △BCD	6. SAS
7. $\overline{AC} \cong \overline{BD}$	7. CPCTC

A Square is a parallelogram with four congruent sides and four right angles

A Kite is a quadrilateral with two pairs of consecutive congruent sides (but the pairs are not congruent to each other)

A trapezoid is...

An Isosceles Trapezoid is a quadrilateral in which one (and only one) pair of opposite sides are parallel, and the other pair of sides is congruent.