

What is a rectangle?

Do Now Sketch a rectangle.



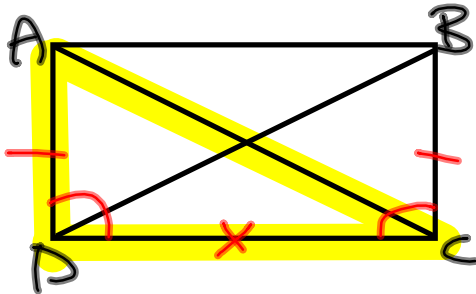
Def. a quadrilateral with equal int. $\angle$'s.

* Since opp. $\angle$'s are $\cong$ $\square R$ are $\square P$.

Prop.

1) All prop. (inc. def.) of $\square P$ are true.

$\Rightarrow$ Diagonals are $\cong$.



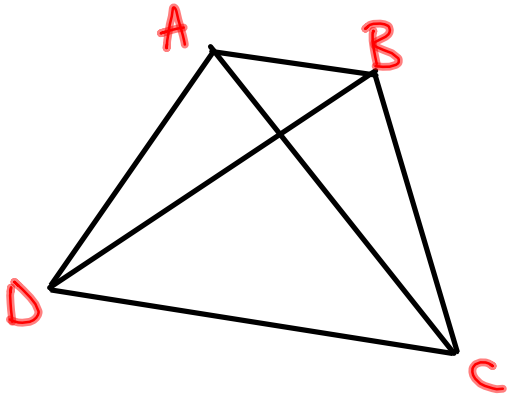
Given: ABCD is $\square$

$\overline{AC}$ & $\overline{BD}$ are diagonals

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

S	R
① ② $\overline{DC} \cong \overline{DC}$ ③ $\overline{AD} \cong \overline{BC}$ ④ $\angle ADC \cong \angle BCD$ ⑤ $\triangle ADC \cong \triangle BCD$ ⑥ $\overline{AC} \cong \overline{BD}$	Given Reflexive * equiangular quadrilateral. opp. sides are $\cong$ in $\square$ <u>All int. $\angle$'s are $\cong$ in $\square$</u> SAS CPCTC

*Diagonals are $\cong$.



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

$\overline{AC}$ does not bisect
 $\overline{BD}$

Prove: ABCD is not $\square$.

S	R
① ② ABCD is a $\square$ ③ $\overline{AC}$ & $\overline{BD}$ bisect each other. ④ ABCD is not a $\square$	Given Assumption diagonals bisect each other in $\square$. contradiction ① & ③

