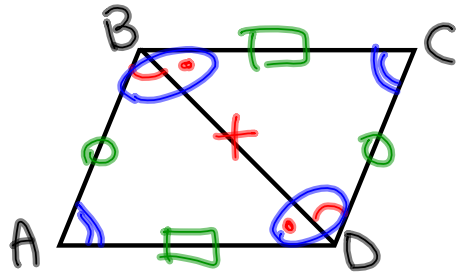


What is a parallelogram?

Do Now



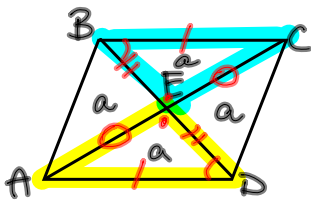
Given: $\overline{AB} \parallel \overline{CD}$
 $\overline{BC} \parallel \overline{AD}$

Prove: $\triangle ABD \cong \triangle CDB$
 By ASA.

Parallelogram

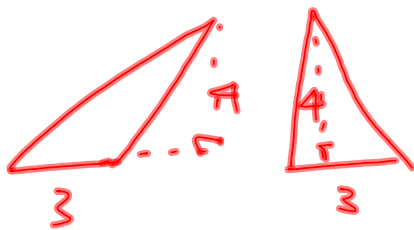
Def. a quadrilateral w/ 2 pairs of
 // sides.

- 1) opp. sides are $\cong$
- 2) A diagonal creates 2 $\cong$ Δ 's
- 3) opp. $\angle$'s are $\cong$
- 4) diagonals bisect each other.
- 5) diagonals create 4 Δ 's with equal areas.



Given: $ABCD$ is a $\square$
 BD & AC are diagonals intersecting at E .
 Prove: $\triangle AED \cong \triangle CEB$

S	R
①	Given
② $\overline{BC} \cong \overline{AD}$	opp. sides are $\cong$ in $\square$
③ $\angle AED \cong \angle CEB$	vertical $\angle$'s are $\cong$ when 2 lines intersect.
④ $\angle CBE \cong \angle ADE$	Alt. int. $\angle$'s are $\cong$ in $\parallel$ lines.
③.5 $\overline{BC} \parallel \overline{AD}$	opp sides are $\parallel$ in $\square$.
⑤ $\triangle AED \cong \triangle CEB$	AAS.



Given: $ABDE$ is a $\square$
 $BF \perp AE$
 $CE \perp BD$

Prove: $\triangle ABF \cong \triangle DEC$
 By AAS.

① ② $\overline{BA} \cong \overline{DE}$ ③ $\angle A \cong \angle D$ ④ $m\angle BFA = 90$ $m\angle ECD = 90$ ⑤ $\angle BFA \cong \angle ECD$ ⑥ $\triangle ABF \cong \triangle DEC$	Given opp. sides in $\square$ are $\cong$ opp. $\angle$'s are $\cong$ in $\square$ $\perp$ lines form 90° $\angle$'s. all 90° $\angle$'s are $\cong$. AAS
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