

Name: Key

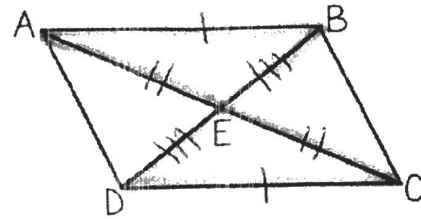
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Parallelogram Proofs Practice

1.

Given: ABCD is a parallelogram

Prove: $\triangle AEB \cong \triangle CED$



Statements	Reasons
1) ABCD is a parallelogram	1) Given
2) $\overline{AB} \cong \overline{CD}$	2) opposite sides are \cong
3) $\overline{AE} \cong \overline{CE}$, $\overline{BE} \cong \overline{DE}$	3) diagonals bisect each other
4) $\triangle AEB \cong \triangle CED$	4) SSS

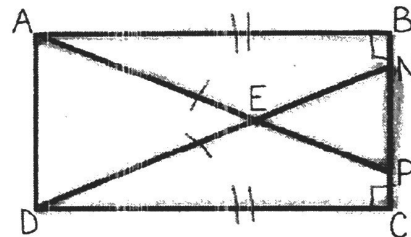
1) Given
 2) opposite sides are \cong
 3) diagonals bisect each other
 4) SSS

* can be completed other ways

2.

Given: Rectangle ABCD, ~~BNPC~~, ~~ABP~~, ~~DCN~~,
 and $\overline{AP} \cong \overline{DN}$.

Prove: $\triangle ABP \cong \triangle DCN$



Statements	Reasons
1) Rectangle ABCD, BNPC , $\overline{AP} \cong \overline{DN}$	1) Given
2) $\overline{AB} \cong \overline{DC}$	2) opposite sides are \cong
3) $\angle B$ + $\angle C$ are right \angle s	3) all \angle s in rectangles are right \angle s
4) $\triangle ABP$ + $\triangle DCN$ are right \triangle s	4) \triangle s with right \angle s are right \triangle s
5) $\triangle ABP \cong \triangle DCN$	5) HL

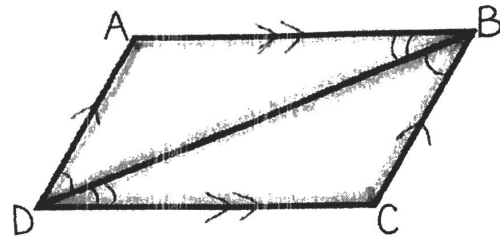
1) Given
 2) opposite sides are \cong
 3) all \angle s in rectangles are right \angle s
 4) \triangle s with right \angle s are right \triangle s
 5) HL

* can be completed other ways

3.

Given: $\angle ADB \cong \angle CBD$, $\angle ABD \cong \angle CDB$

Prove: ABCD is a parallelogram



Statements	Reasons
1) $\angle ADB \cong \angle CBD$, $\angle ABD \cong \angle CDB$	1) Given
2) $\overline{AD} \parallel \overline{CB}$, $\overline{AB} \parallel \overline{CD}$	2) Alternate Interior Angles Converse
3) ABCD is a parallelogram	3) Both pairs of opposite sides are \parallel (Definition of parallelogram)
	<i>* can be completed other ways</i>

4.

Given: $\overline{MG} \cong \overline{EO}$, $\angle MGO \cong \angle EOG$

Prove: GEOM is a parallelogram



Statements	Reasons
1) $\overline{MG} \cong \overline{EO}$, $\angle MGO \cong \angle EOG$	1) Given
2) $\overline{GM} \parallel \overline{EO}$	2) Alternate Interior Angles Converse
3) GEOM is a parallelogram	3) one pair of opposite sides is \parallel + \cong
	<i>* can be completed other ways</i>