

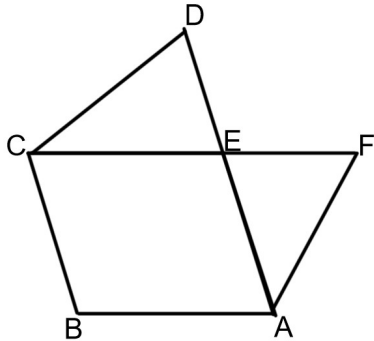
Name _____
Mr. Schlansky

Date _____
Geometry

Parallelogram Proofs with Additional Tools

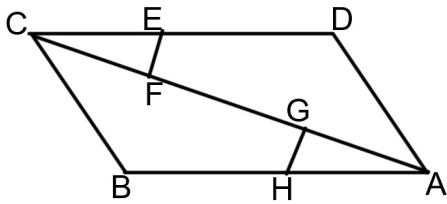
1. Given: Rhombus AECB, $\angle FAB \cong \angle DCB$

Prove: $\overline{DE} \cong \overline{EF}$



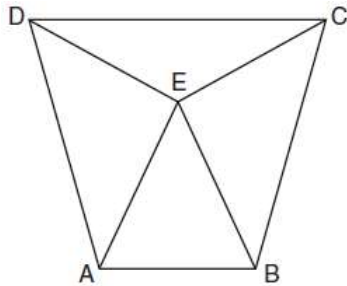
2. Given: ABCD is a parallelogram, $\overline{AF} \cong \overline{GC}$, $\overline{BH} \cong \overline{DE}$

Prove: $\overline{EF} \cong \overline{GH}$

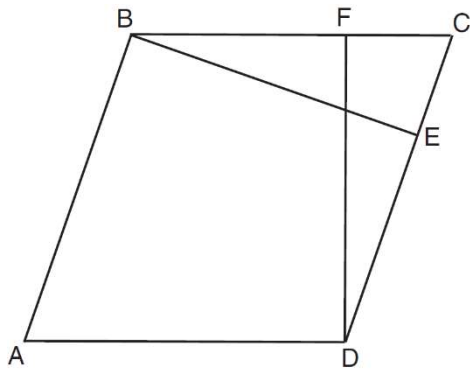


3. Isosceles trapezoid $ABCD$ has bases \overline{DC} and \overline{AB} with nonparallel legs \overline{AD} and \overline{BC} . Segments \overline{AE} , \overline{BE} , \overline{CE} , and \overline{DE} are drawn in trapezoid $ABCD$ such that $\angle CDE \cong \angle DCE$, $\overline{AE} \perp \overline{DE}$, and $\overline{BE} \perp \overline{CE}$.

Prove $\triangle ADE \cong \triangle BCE$ and prove $\triangle AEB$ is an isosceles triangle.

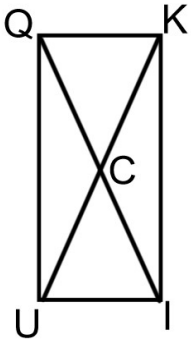


4. In the diagram of parallelogram $ABCD$ below, $\overline{BE} \perp \overline{CE}$, $\overline{DF} \perp \overline{BF}$, $\overline{CE} \cong \overline{CF}$. Prove $ABCD$ is a rhombus.



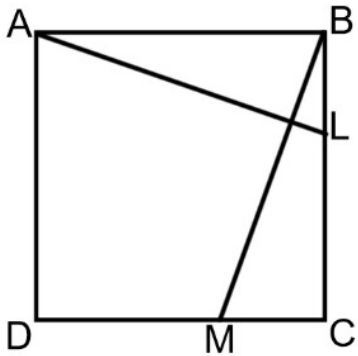
5. Given: QUIK is a parallelogram, $\angle QUI \cong \angle KIU$

Prove: QUIK is a rectangle

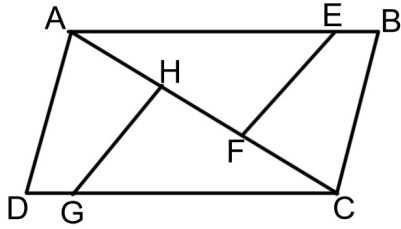


6. Given: Rhombus ABCD, $\overline{BL} \cong \overline{CM}$, $\overline{AL} \cong \overline{BM}$

Prove: ABCD is a square



7. Given: $\overline{AE} \cong \overline{CG}$, $\overline{BE} \cong \overline{DG}$, $\overline{AH} \cong \overline{CF}$, $\overline{AD} \cong \overline{CB}$
 Prove: $\overline{EF} \cong \overline{GH}$



8. Given: Parallelogram $ABCD$, $\overline{BF} \perp \overline{AFD}$, and $\overline{DE} \perp \overline{BEC}$
 Prove: $BEDF$ is a rectangle

