

5.4 - Triangle Proofs with Parallel Lines

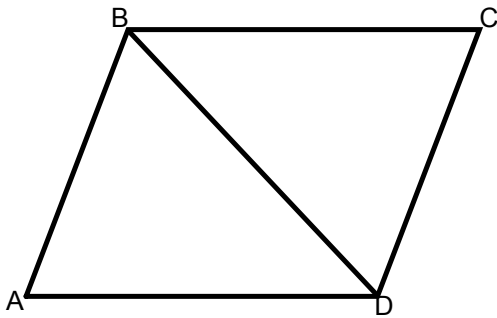
Lets see if we can use what we learned in level 5 to write some proofs

Properties of a Parallelogram

1. _____
2. _____
3. _____
4. _____
5. _____

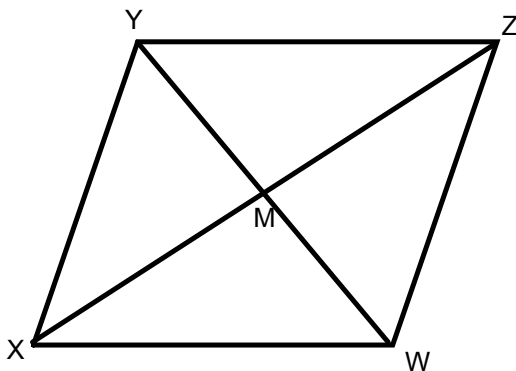
Given: ABCD is a parallelogram

Prove: $\triangle ABD \cong \triangle CBD$



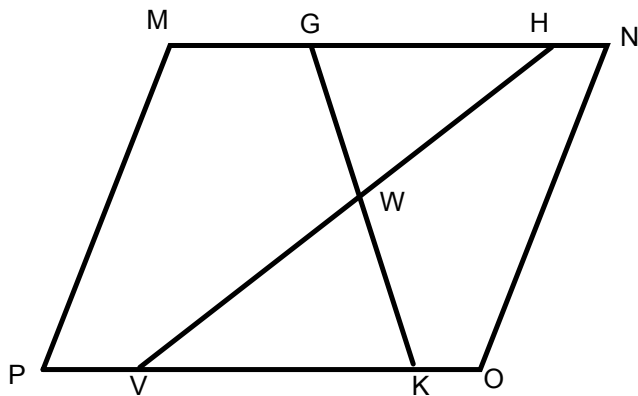
Given: XYZW is a parallelogram

Prove: $\triangle XYM \cong \triangle ZWM$



Given: $MNOP$ is a parallelogram, $\overline{HG} \cong \overline{VK}$

Prove: $\overline{HW} \cong \overline{VW}$

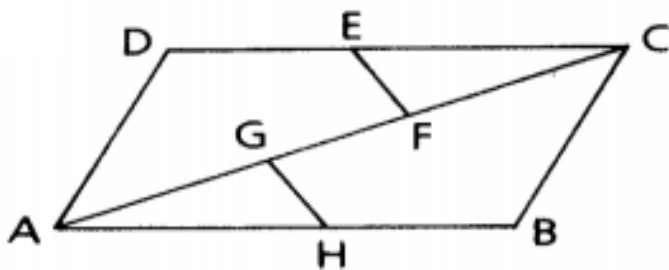


Given: $ABCD$ is a \square (parallelogram).

$\angle GHA \cong \angle FEC$,

$\overline{AH} \cong \overline{EC}$

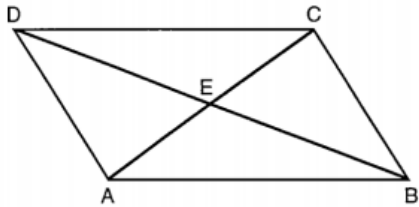
Conclusion: $\overline{GH} \cong \overline{EF}$



Independent Practice

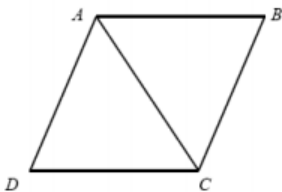
Given: Quadrilateral ABCD is a parallelogram

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



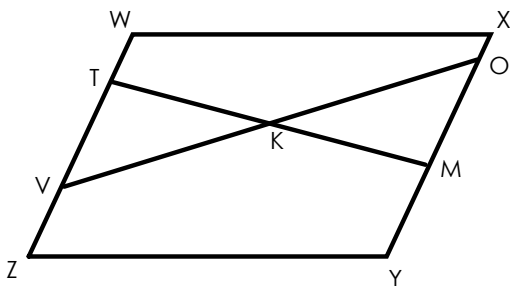
Given: Quadrilateral ABCD is a parallelogram

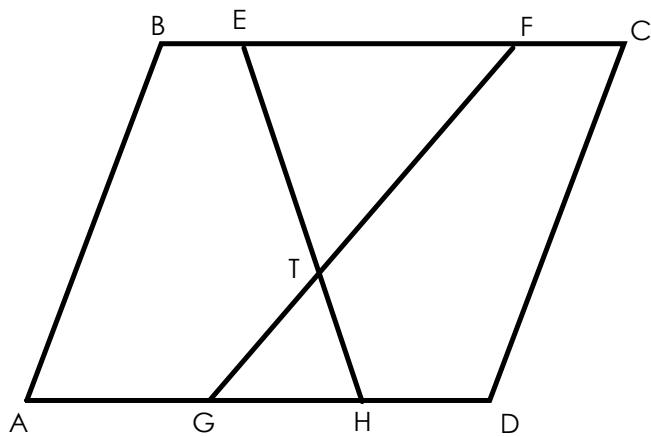
Prove: $\triangle DAC \cong \triangle BCA$



Given: WXYZ is a parallelogram and K is the midpoint of \overline{TM} .

Prove: $\triangle TKV \cong \triangle MKO$

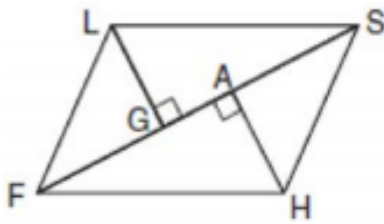




Given: ABCD is a parallelogram

Prove: $\triangle GTH \sim \triangle FTE$

Given: parallelogram $FLSH$, diagonal \overline{FGAS} ,
 $\overline{LG} \perp \overline{FS}$, $\overline{HA} \perp \overline{FS}$



Prove: $\triangle LGS \cong \triangle HAF$