The properties of a parallelogram are:

- The opposite sides of a parallelogram are _$\cong$ and $\parallel$_.
- The opposite angles of a parallelogram are _$\cong$_.
- The consecutive angles of a parallelogram are _supplementary (180)_.
- If a parallelogram has ONE right angle, then it has _4 right $\angle$'s_.
- The diagonals of a parallelogram _bisect each other_.
- Each diagonal separates the parallelogram into _2 $\cong$ $\triangle$s_.

Example 1:

Write a two-column proof.

Given: ▱HJKP and ▱PKLM

Prove: $\overline{HJ} \cong \overline{ML}$
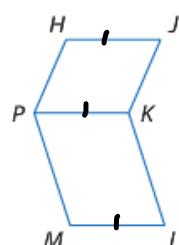
STATEMENTS	REASONS
1. ▱HJKP and ▱PKLM	1. Given
2. $\overline{HJ} \cong \overline{PK}$ and $\overline{PK} \cong \overline{ML}$	2. Opp. sides of ▱ are ≅.
3. $\overline{HJ} \cong \overline{ML}$	3. Transitive Property (or Substitution)

Example 2:

Given: *ABCH* and *DCGF* are
　　　　parallelograms.
Prove: $\angle A \cong \angle F$
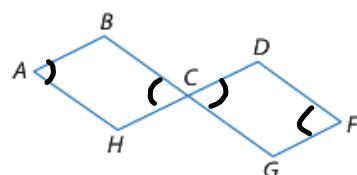
STATEMENTS	REASONS
1. ▱ABCH and ▱DCGF	1. Given
2. $\angle A \cong \angle BCH$ and $\angle DCG \cong \angle F$	2. Opp. $\angle$s of ▱ are $\cong$.
3. $\angle BCH \cong \angle DCG$	3. Vertical Angles Thm.
4. $\angle A \cong \angle F$	4. Substitution

Example 3:

Given: $WXTV$ and $ZYVT$ are parallelograms.

Prove: $\overline{WX} \cong \overline{ZY}$
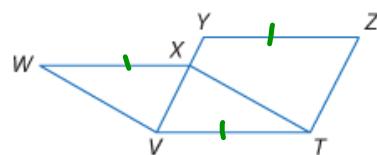
STATEMENTS	REASONS
1. ▱WXTV and ▱ZYVT	1. Given
2. $\overline{WX} \cong \overline{VT}$ and $\overline{VT} \cong \overline{YZ}$	2. Opp. sides of ▱ are ≅.
3. $\overline{WX} \cong \overline{ZY}$	3. Transitive Prop. (or Substitution).