**6.2 Properties of Parallelograms**

VOCABULARY:

**Parallelogram:** A parallelogram is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with both pairs of opposite sides parallel.

**Theorem 6.2**

**Words:** If a quadrilateral is a parallelogram, then its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sides are congruent.

**Symbols:** In $PQRS$, $\overbar{PQ}≅\overbar{SR}$ and$\overbar{QR}≅\overbar{PS}$.

Example 1:



a) $FGHJ$ is a parallelogram. Find $JH$ and $FJ$.



b) $ABCD$ is a parallelogram, Find $AB $and $AD$.

**Theorem 6.3**

**Words:** If a quadrilateral is a parallelogram, then its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angles are congruent.

**Symbols:** In $PQRS$, $∠P≅∠R$ and$∠Q≅∠S$.

**Theorem 6.4**

**Words:** If a quadrilateral is a parallelogram, then its consecutive angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Symbols:** In $PQRS$, $x°+y°=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$

Complete the following statements:

Opposite angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Consecutive angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example 2:

PQRS is a parallelogram. Find the missing angle measures.

**Theorem 6.5**

**Words:** If a quadrilateral is a parallelogram, then its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bisect each other.

**Symbols:** In $PQRS$, $\overbar{QM}≅\overbar{MS}$ and $\overbar{PM}≅\overbar{MR}$.

Example 3: $TUVW$ is a parallelogram. Find $TX.$

