

Geometry

Notes Section 8.2

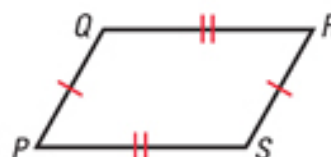
Use Properties of Parallelograms

Parallelogram: _____

THEOREM 8.3

If a quadrilateral is a parallelogram, then its opposite sides are congruent.

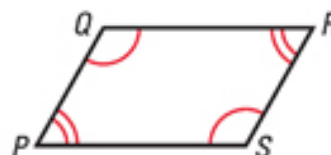
If $PQRS$ is a parallelogram, then $\overline{PQ} \cong \overline{RS}$ and $\overline{QR} \cong \overline{PS}$.



THEOREM 8.4

If a quadrilateral is a parallellogram, then its opposite angles are congruent.

If $PQRS$ is a parallelogram, then $\angle P \cong \angle R$ and $\angle Q \cong \angle S$.



THEOREM 8.5

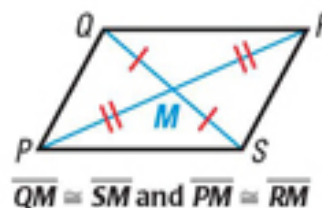
If a quadrilateral is a parallelogram, then its consecutive angles are supplementary.

If $PQRS$ is a parallelogram, then $x^\circ + y^\circ = 180^\circ$.

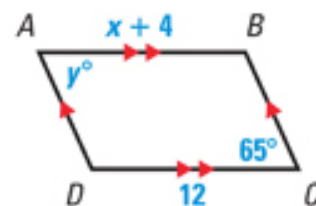


THEOREM 8.6

If a quadrilateral is a parallelogram, then its diagonals bisect each other.



EXAMPLE 1 Find the values of x and y .



EXAMPLE 2 Part of the extending arm of a desk lamp is a parallelogram. The angles of the parallelogram change as the lamp is raised and lowered. Find $m\angle BCD$ when $m\angle ADC = 110^\circ$.



EXAMPLE 3 The diagonals of parallelogram LMNO intersect at point P. What are the coordinates of P?

