

Polygon angles

For **any polygon** with n sides:

- Sum of interior $\angle = (n - 2)180$
- Sum of exterior $\angle = 360$

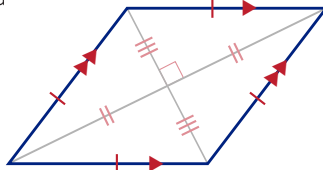
For a **regular polygon**:

- Each interior $\angle = \frac{(n - 2)180}{n}$
- Each exterior $\angle = \frac{360}{n}$

Rhombus

A parallelogram with congruent sides

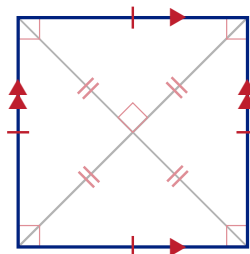
- All the properties of a parallelogram
- All sides \cong
- Diagonals are \perp
- Diagonals are \angle bisectors



Square

A rectangle with all sides congruent

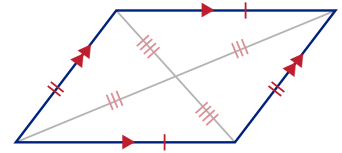
- All the properties of a parallelogram
- All sides \cong
- All angles are \perp
- Diagonals are \cong
- Diagonals are \perp



Parallelogram

A quadrilateral with parallel sides

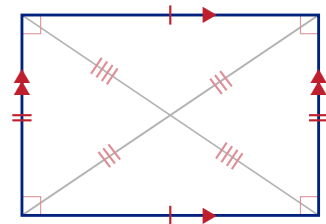
- Opposite sides \parallel
- Opposite sides \cong
- Opposite \angle s \cong
- Consecutive \angle s supplementary
- Diagonals bisect each other



Rectangle

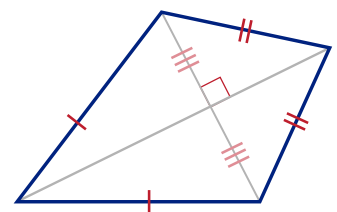
A parallelogram with 4 right angles

- All the properties of a parallelogram
- All angles are \perp
- Diagonals are \cong



Kite

- Consecutive sides \cong
- Diagonals are \perp
- Major axis bisects the minor axis
- Major axis is \angle bisector

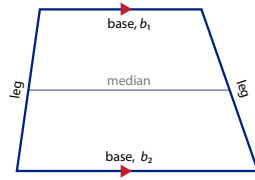


Trapezoid

A quadrilateral with one pair of parallel sides

- **Base sides** are \parallel
- **Legs** are *not* \parallel
- Median connects the legs' midpoints.
- Length of median is the average of the base lengths. *i.e.*,

$$\text{median} = \frac{b_1 + b_2}{2}$$



Isosceles Trapezoid

A trapezoid with congruent legs

- Legs are \cong
- Base sides are \parallel
- Legs are *not* \parallel
- Top base angles are \cong
- Bottom base angles are \cong
- Diagonals are \cong

