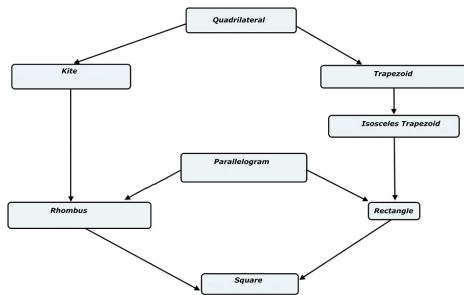


Unit 5.6 - Properties of Kites and Trapezoids

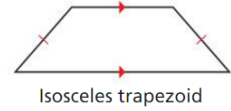
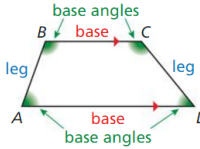
Properties of Quadrilaterals



5.6 - More Special Quadrilaterals

Trapezoid = Quadrilateral with exactly **one pair of opposite sides parallel**.

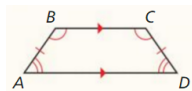
- The parallel sides are called the *bases*
- The other sides (non-parallel) are called the *legs*
- If the legs are congruent, then the trapezoid is an *Isosceles Trapezoid*.



Isosceles Trapezoid

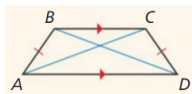
- Each pair of base angles is congruent.

$$\angle B \cong \angle C \quad \angle A \cong \angle D$$



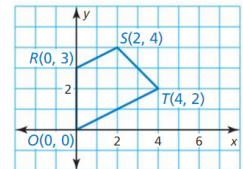
- Diagonals are congruent.

$$\overline{BD} \cong \overline{AC}$$



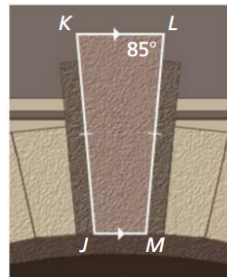
Example #1 Identifying a Trapezoid in the Coordinate Plane

Show that $ORST$ is a trapezoid. Then decide whether it is isosceles.



Example #2 Using Properties of Isosceles Trapezoids

The stone above the arch in the diagram is an isosceles trapezoid. Find $m\angle K$, $m\angle M$, and $m\angle J$.

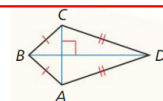


5.6 - More Special Quadrilaterals

Kite = Quadrilateral with **two pairs of consecutive sides congruent**, but opposite sides are not congruent.

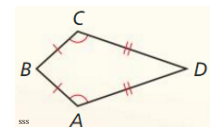
- Diagonals are perpendicular to each other

$$\overline{BD} \perp \overline{AC}$$



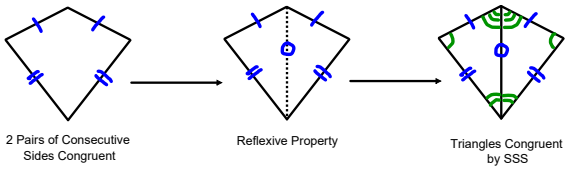
- Exactly one pair of opposite angles congruent

$$\angle A \cong \angle C$$



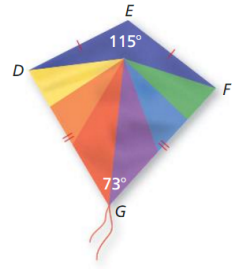
Unit 5.6 - Properties of Kites and Trapezoids

Kites = How to remember the properties



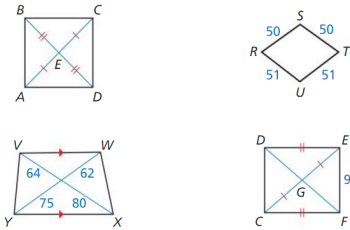
Example #3 Finding Angle Measures in a kite

Find $m\angle D$ in the kite shown.



Example #4 Identifying a Quadrilateral

Give the most specific name for the quadrilateral. Explain your reasoning.



Homework

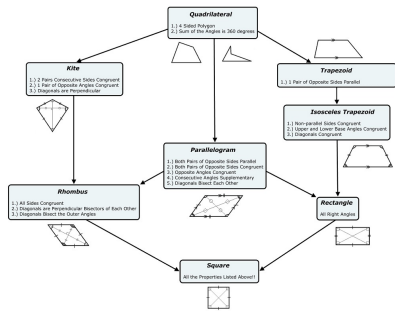
5.6 p.403

#1,3,6-8,11,30

HW for Tue 2/22

Tue	2/22	5.6 - Trapezoids and Kites
Wed	2/23	5.6 (Cont.)
Thu	2/24	Chap 5 Review Assignment (Due Mon 2/28)
Fri	2/25	Chap 5 In-class Activity (Review)
Mon	2/28	Chap 5 Test

Properties of Quadrilaterals

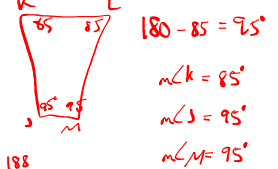


EX 1

SLOPES
 $\overline{RS} = \frac{1}{4}$
 $\overline{ST} = \frac{1}{4} m\overline{L}$ $\overline{RS} \parallel \overline{ST} \rightarrow$ TRAPEZOID

LENGTHS
 $\overline{RS} = 3$
 $\overline{ST} = \sqrt{2^2 + 2^2} = \sqrt{8}$ $\overline{RS} \neq \overline{ST} \rightarrow$ NOT ISOS. TRAPEZOID

EX 2



EX 3

