







Type of quadrilateral	Properties
Parallelogram 	Opposite sides are equal and parallel. Opposite angles are equal.
Rhombus 	Opposite sides are parallel. All sides are equal.
Rectangle 	Opposite sides are parallel and equal. Each angle is a right angle.
Square 	Opposite sides are parallel. All sides are equal. Each angle is a right angle.
Kite 	Exactly two pairs of consecutive sides are equal.
Trapezoid 	Only one pair of opposite sides are parallel.

PROPERTIES OF QUADRILATERALS

Properties of Parallelograms

In a parallelogram,

1. The parallel sides are parallel by definition.
2. The opposite sides are congruent.
3. The opposite angles are congruent.
4. The diagonals bisect each other.
5. Any pair of consecutive angles are supplementary.



Properties of Rectangles

In a rectangle,

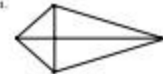
1. All the properties of a parallelogram apply by definition.
2. All angles are right angles.
3. The diagonals are congruent.



Properties of Kites

In a kite,

1. Two disjoint pairs of consecutive sides are congruent by definition.
2. The diagonals are perpendicular.
3. One diagonal is the perpendicular bisector of the other.
4. One of the diagonals bisects a pair of opposite angles.
5. One pair of opposite angles are congruent.



Properties of Rhombuses

In a rhombus,

1. All the properties of a parallelogram apply by definition.
2. Two consecutive sides are congruent by definition.
3. All sides are congruent.
4. The diagonals bisect the angles.
5. The diagonals are perpendicular bisectors of each other.
6. The diagonals divide the rhombus into four congruent right triangles.



Properties of Squares

In a square,

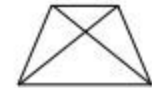
1. All the properties of a rectangle apply by definition.
2. All the properties of a rhombus apply by definition.
3. The diagonals form four isosceles right triangles.

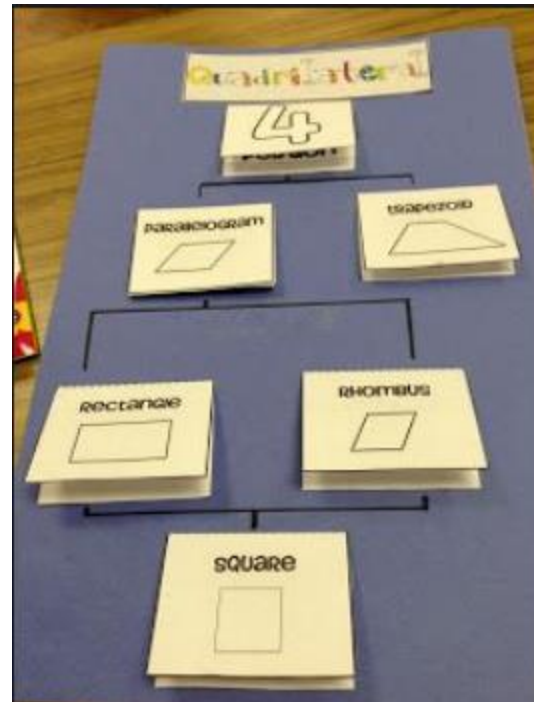
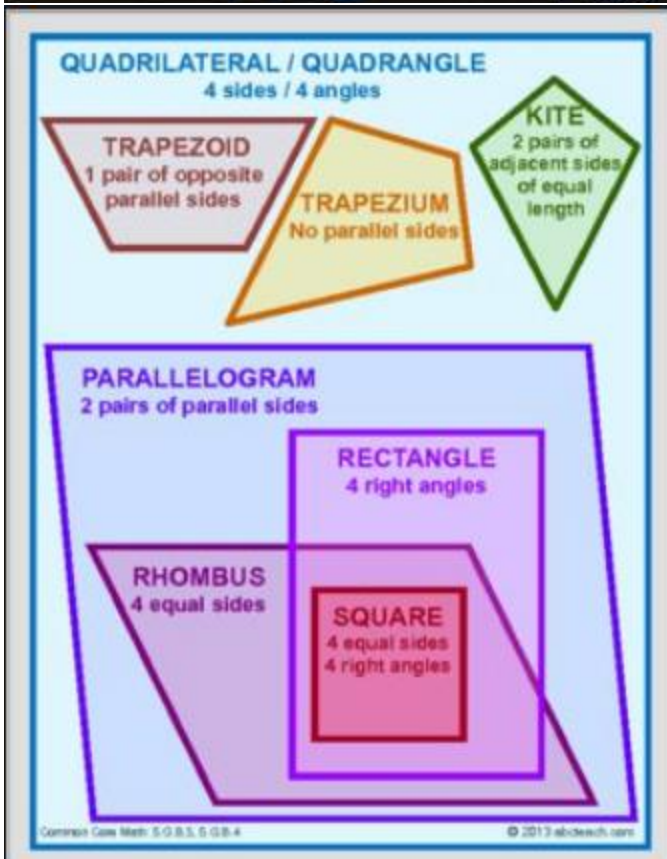
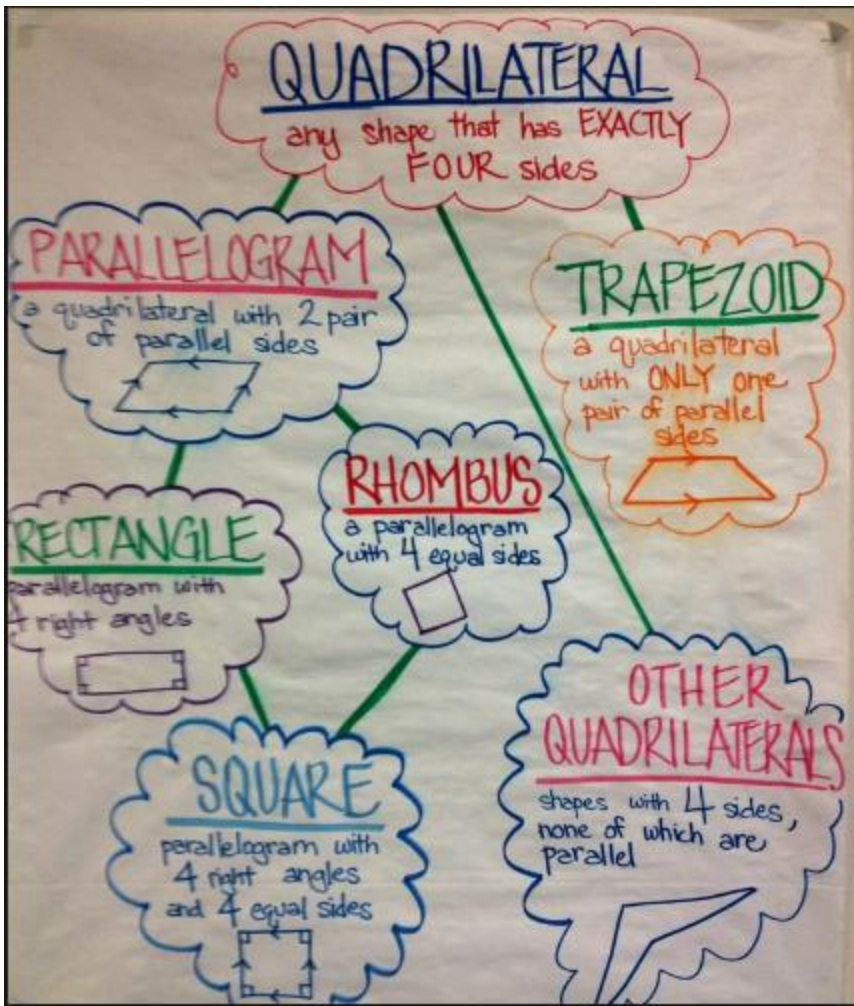



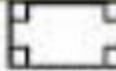




Properties of Isosceles Trapezoids





In an isosceles trapezoid,

1. The legs are congruent by definition.
2. The bases are parallel by definition.
3. The lower base angles are congruent.
4. The upper base angles are congruent.
5. The diagonals are congruent.
6. Any lower base angle is supplementary to any upper base angle.





Property	 Parallelogram	 Rectangle	 Rhombus	 Square	 Kite	 Trapezoid
1. All sides are eq.			x	x		
2. Both Pairs are opp. Sides are cong.	x	x	x	x		
3. Both pairs of opp. sides are p.	x	x	x	x		x
4. Exactly 1 pair of opp. sides are cong.					x	
5. Diagonals are perpendicular.			x	x	x	
6. Diagonals are cong.		x		x		
7. Diagonals bisect each other.	x	x	x	x		
8. All angles are cong.		x		x		
9. Exactly 1 pair of opp.						

Sides	Angles	Name Of Quadrilateral
1. Opposite sides are equal and parallel.	Opposite angles are equal.	Parallelogram 
2. All four sides equal and two pairs of opposite sides parallel.	Each angle equals to 90° .	Square 
3. Two pairs of opposite sides are equal and parallel.	Each angle equals to 90° .	Rectangle 
4. All four sides equal and two pair of opposite sides parallel.	Two pairs of opposite angles equal.	Rhombus 
5. One pair of opposite sides parallel.	All four angles unequal.	Trapezium 