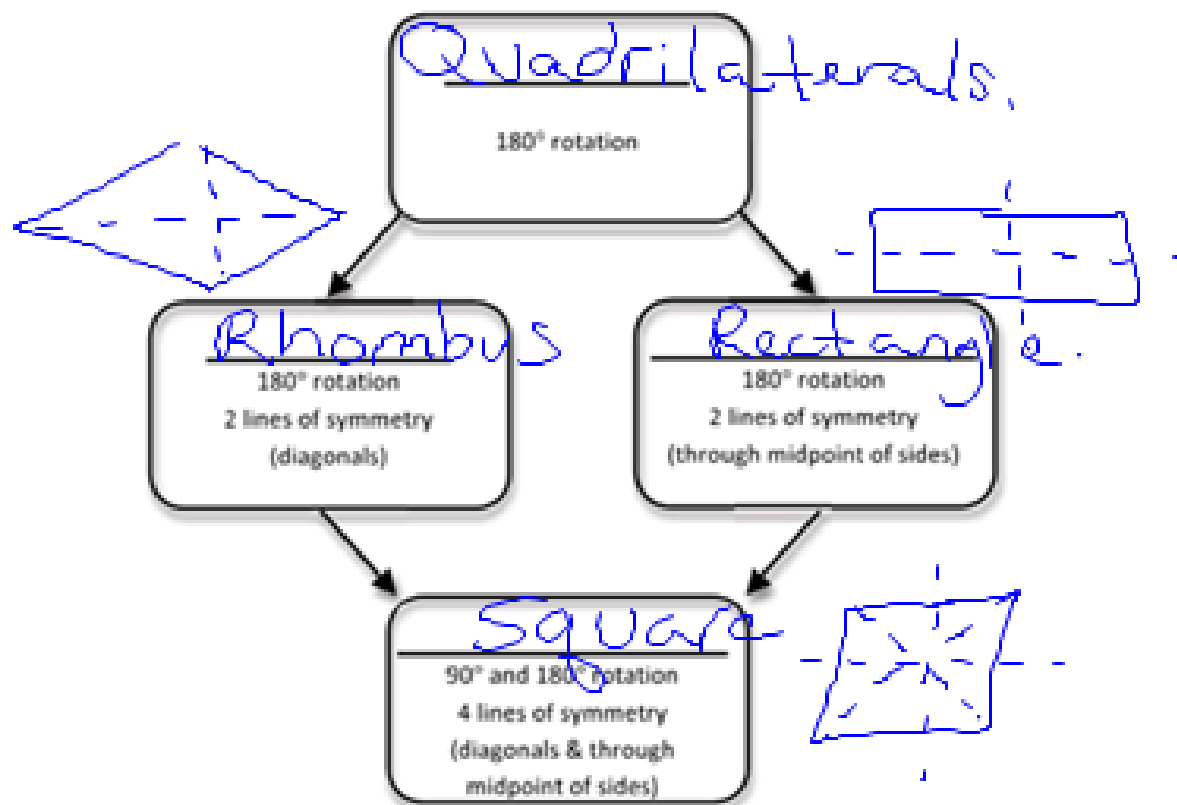


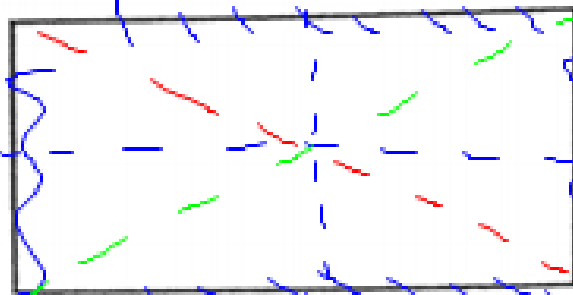
Geometry: MVP Ls. 6.7 Activity

We have found that many different quadrilaterals possess line and/or rotational symmetry. In the following chart, write the names of the quadrilaterals that are being described in terms of their symmetries.



Based on the symmetries we have observed in various types of quadrilaterals, we can make claims about other features and properties that the quadrilaterals may possess.

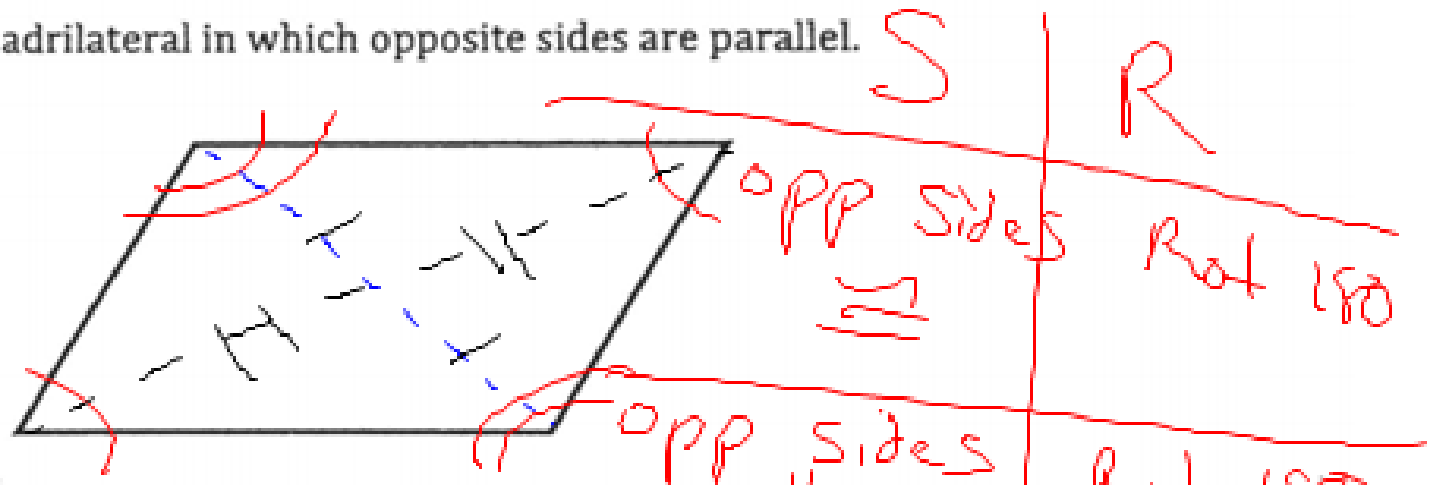
1. A rectangle is a quadrilateral that contains four right angles.



S	R
opp. sides $\cong$	Reflection & Rotation $180^\circ$
opp. sides $\parallel$	Reflection Rot. $180^\circ$
Diag. $\cong$	Rotation $180^\circ$ .

Based on what you know about transformations, what else can we say about rectangles besides the defining property that all four angles are right angles? Make a list of additional properties of rectangles that seem to be true based on the transformation(s) of the rectangle onto itself. You will want to consider properties of the sides, the angles, and the diagonals.

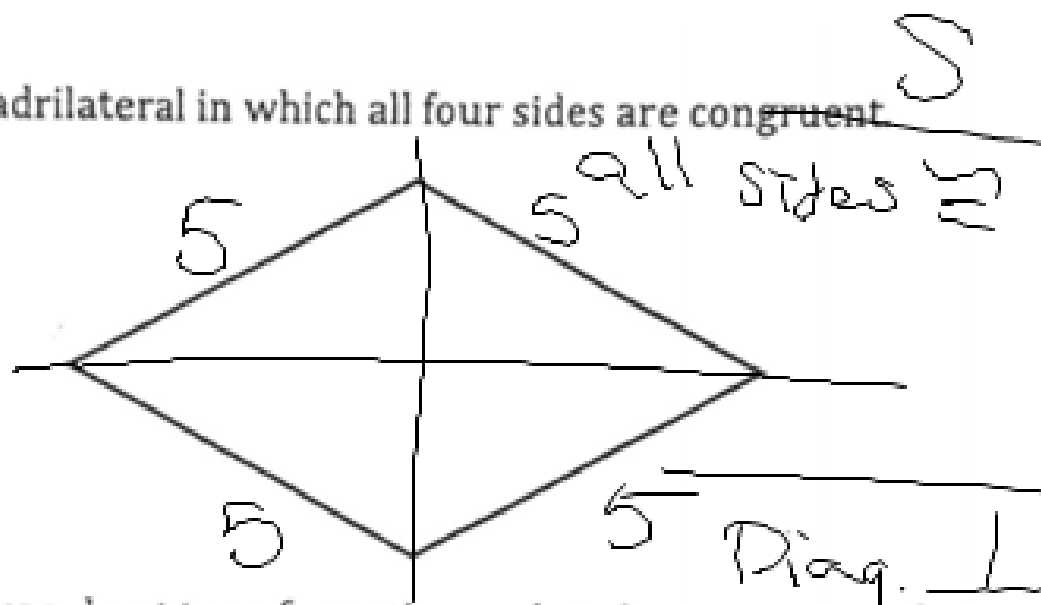
2. A **parallelogram** is a quadrilateral in which opposite sides are parallel.



Based on what you know about transformations, what else can we say about parallelograms besides the defining property that opposite sides of a parallelogram are parallel? Make a list of additional properties of parallelograms that seem to be true based on the transformation(s) of the parallelogram onto itself. You will want to consider properties of the sides, angles and the diagonals.

opp  $\angle$ 's  $\cong$  Rot  $180^\circ$   
 Diagonals bisect each other Rot  $180^\circ$

3. A rhombus is a quadrilateral in which all four sides are congruent



Rot  $90^\circ$  +  $180^\circ$   
 Reflection over  
 Vert/hor line

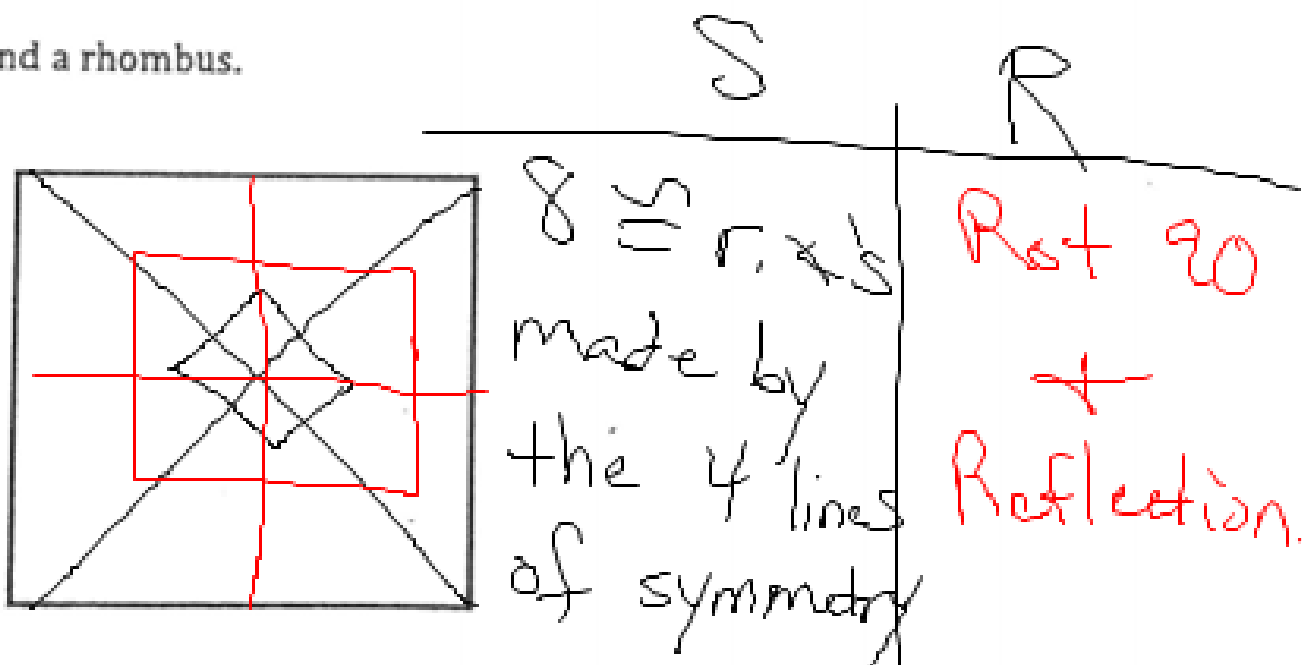
Rot  $90^\circ$

Based on what you know about transformations, what else can we say about a rhombus besides the defining property that all sides are congruent? Make a list of additional properties of rhombuses that seem to be true based on the transformation(s) of the rhombus onto itself. You will want to consider properties of the sides, angles and the diagonals.

Diag. bisect  
 each other

Rot  $180^\circ$

4. A square is both a rectangle and a rhombus.



Based on what you know about transformations, what can we say about a square? Make a list of properties of squares that seem to be true based on the transformation(s) of the squares onto itself. You will want to consider properties of the sides, angles and the diagonals.

