Geometry 6-5 Rhombi and Squares

Another special parallelogram is the (plural is). A rhombus is a parallelogram in which all four sides are congruent.

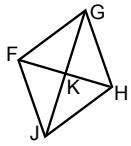
A rhombus is a parallelogram, so all of the properties from 6-2 apply. In addition, a rhombus has other properties.

Theorem 6.15: If a parallelogram is a rhombus, then its diagonals are perpendicular.

Theorem 6.16: If a parallelogram is a rhombus, then each diagonal bisects a pair of opposite angles.

The diagonals of rhombus FGHJ intersect at K. Use the given information to find each value.

If FK = 5 and FG = 13, find KJ.



If m∠JFK = 6y + 7 and m∠KFG = 9y - 5, find y.

You could say a is a rhombus with four right angles. You could say a square is a rectangle with four congruent sides.

All of the properties of a rectangle from 6-4 and all of the properties of a rhombus from this lesson apply to a square.

Just like we did with rectangles, we have a few theorems that help us determine if our parallelogram is a rhombus or a square.

Theorem 6.17: If the diagonals of a parallelogram are perpendicular, then the parallelogram is a rhombus.

Theorem 6.18: If one diagonal of a parallelogram bisects a pair of opposite angles, then the parallelogram is a rhombus.

Theorem 6.19: If one pair of consecutive sides of a parallelogram are congruent, then the parallelogram is a rhombus.

Theorem 6.20: If a quadrilateral is both a rectangle and a rhombus, then it is a square.

Given J(5,0), K(8,-11), L(-3,-14), M(-6,-3), determine whether parallelogram JKLM is a rhombus, rectangle, or square. List all that apply.