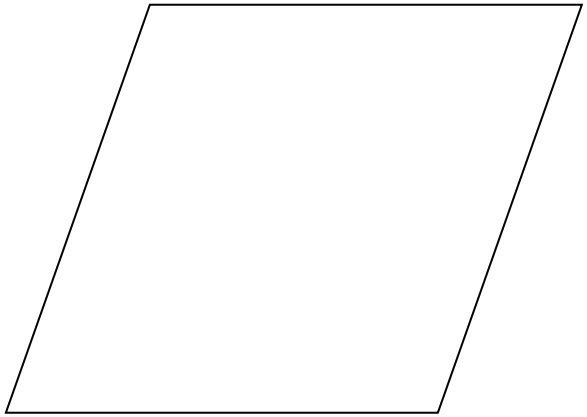
Special Parallelograms Discovery — Applied Geometry Ch6 D4

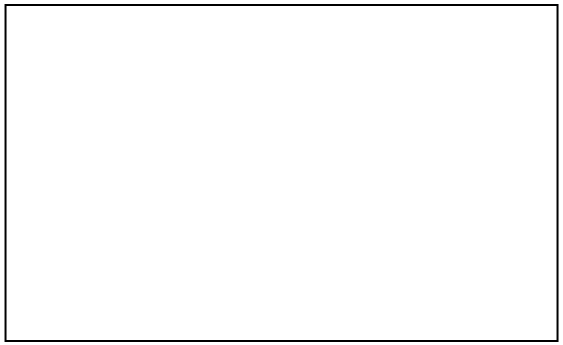
Use a straight edge to draw in both diagonals in each parallelogram below. Then use a ruler to measure the side lengths and diagonals and protractor to measure the angles. Once you have labeled the lengths and angles, answer the three questions for each parallelogram.

Rhombus (4 congruent sides)



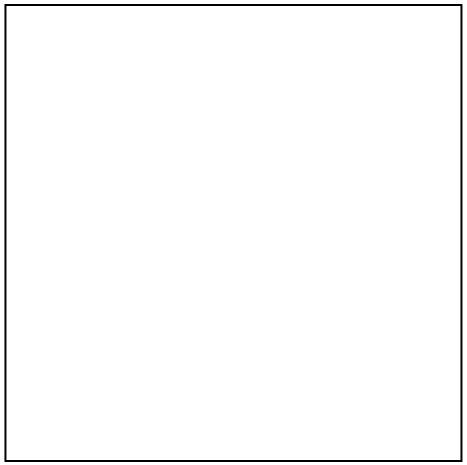
1. Are diagonals congruent? ___
2. Are diagonals perpendicular? ___
3. Do diagonals bisect all 4 angles? ___

Rectangle (4 right angles)



1. Are diagonals congruent? ___
2. Are diagonals perpendicular? ___
3. Do diagonals bisect all 4 angles? ___

Square (4 congruent sides and 4 right angles)



1. Are diagonals congruent? ___
2. Are diagonals perpendicular? ___
3. Do diagonals bisect all 4 angles? ___

Make some conjectures:

1. Write a conjecture about what gives you **congruent diagonals:**
   If a Parallelogram contains _____ → diagonals ≅

2. Write a conjecture about what gives you **perpendicular diagonals:**
   If a Parallelogram contains _____ → diagonals ⊥

3. Write a conjecture about what gives you **diagonals that bisect all the 4 angles:**
   If a Parallelogram contains _____ → diagonals bisect all 4 ∠'s