Coordinate Geometry Proofs:

*** Make sure you are familiar with the charts given out in class in order to know the process of how to prove what the example is asking for.

Examples:
1) Triangle TRI has vertices T(15,6), R(5,1), and I(5,11). Use coordinate geometry to prove that triangle TRI is isosceles.

2) Triangle DAN has coordinates D(-10,4), A(-4,1), and N(-2,5) Using coordinate geometry, prove that triangle DAN is a right triangle.

3) The vertices of triangle JEN are J(2,10), E(6,4), and N(12,8). Use coordinate geometry to prove that Jen is an isosceles right triangle.

4) The coordinates of the vertices of triangle SUE are S(-2,-4, Y(2,-1), and E(8,-9). Using coordinate geometry, prove that a) triangle SUE is a right triangle, and b) triangle SUE is not an isosceles right triangle.

5) Triangle ART has vertices A(a,b), R(a + c,b), and T(a + c/2, b + d). Using coordinate geometry prove that triangle ART is isosceles.

6) The vertices of quadrilateral JOHN are J(-3,1), O(3,3), H(5,7), and N(-1,5). Use coordinate geometry to prove that quadrilateral JOHN is a parallelogram.

7) Quadrilateral MIKE has vertices M(4,1), I(6,4), K(12,0), and E(10,-3). Use coordinate geometry to prove that quadrilateral MIKE is a rectangle.

8) The coordinates of the vertices of quadrilateral DIAN are D()0,5), I(3,6), A(4,3), and N(1,2). Use coordinate geometry to prove that quadrilateral DIAN is a square.

9) Quadrilateral NORA has vertices N(3,2), O(7,0), R(11,2), and A(7,4). Use coordinate geometry to prove that a) quadrilateral NORA is a rhombus, and b) quadrilateral NORA is not a square.

10) The vertices of quadrilateral KAIT are K(0,0), A(a,0), I(a + b,c), and T(b,c). Use coordinate geometry to prove that quadrilateral KAIT is a parallelogram.

11)) Quadrilateral JACK has vertices J(1,-4), A(10,2), C(8,5), and K(2,1). Use coordinate geometry to prove that a) quadrilateral JACK is a trapezoid, and b) quadrilateral JACK is not isosceles.

12) The vertices of quadrilateral MARY are M(-3,3), A(7,3), R(3,6), and Y(1,6). Use coordinate geometry to prove that quadrilateral MARY is an isosceles trapezoid.