Geometry CC – Mr. Valentino Name: ______________________

Unit 10 Lesson 6: Proving Rhombuses on the Coordinate Plane Date: ______________ Per: ______

You guessed it…<u>Proving **RHOMBUSES** on the Coordinate Plane</u>!

DO NOW: Please list below the 3 properties that help us to prove that a parallelogram is a rhombus:

1. ______________________________

2. ______________________________

3. ______________________________

Great. Now let's talk about how we can do the above on the **coordinate plane**.

- How can we show the diagonals of a rhombus form a right angle?

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- How can we show that adjacent sides of a rhombus are congruent?

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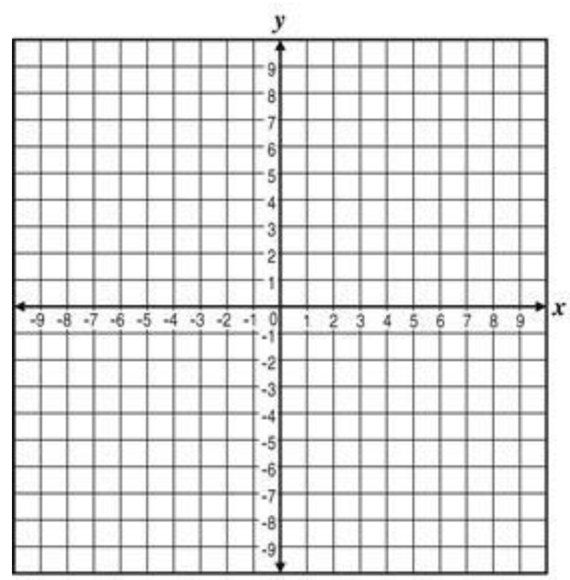
Time for some practice.

1. The vertices of quadrilateral JILA are J(2,3), I(7,3), L(4,7), and A(-1,7).

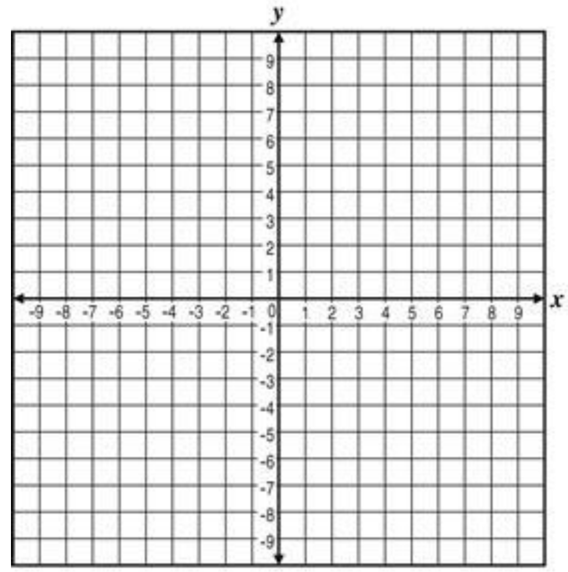
Prove that quadrilateral JILA is a rhombus.



So, as you can see, it is within our best interest to use the ________________________ formula ______________ times in order to prove rhombuses on the coordinate plane.

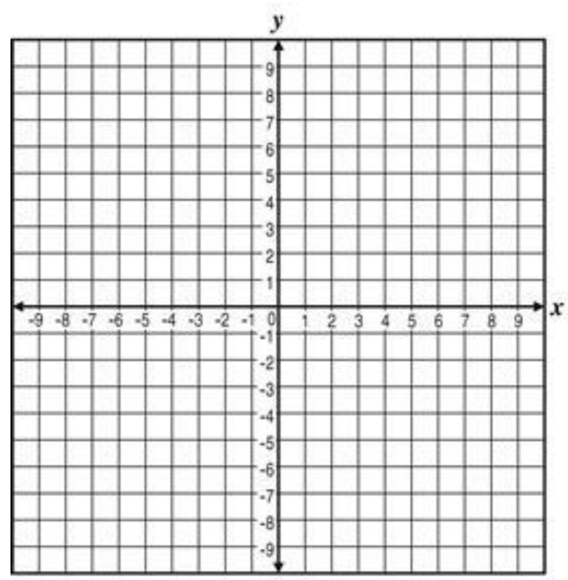
2. The vertices of quadrilateral TASM are T(-5,2), A(3,4), S(1,-4), and M(-7,-6).

Prove that quadrilateral TASM is a rhombus.



3. The vertices of quadrilateral SPOT are S(1,3), P(3,-4), O(-4,-2), and T(-6,5).

Prove that quadrilateral SPOT is a rhombus.



4. The vertices of quadrilateral ISLE are I(1,2), S(3,-1), L(4,2), and E(2,5).

Prove that quadrilateral ISLE is a parallelogram but **not** a rhombus.