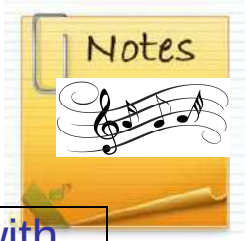
Name: _____ Date: _____

Geometry Unit 3 Day 7: Coordinate Proofs



Triangle Vocabulary

equilateral	An equilateral triangle is a triangle with _____ sides being _____.
isosceles	An isosceles triangle has at least _____congruent sides.
right	A right triangle has one angle with a measure of ___. The sides of a right triangle have special names: the side opposite the right angle is called the_____, the other two are called the _____.
isosceles right	An isosceles right triangle has 2 _____ sides and ___ angle whose measure is 90°.
scalene	A scalene triangle is a triangle with all three sides that are _____.
altitude	An altitude of a triangle is a line segment drawn from a vertex of a triangle _____ to the opposite side.
median	A median is a segment drawn from a vertex of a triangle to the _____ of the opposite side.

Using the definitions, write out plans, including formulas you would use to prove each triangle definition.

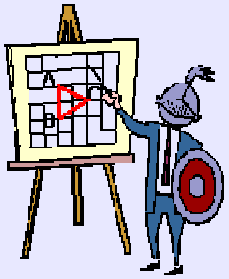
Equilateral triangle	Isosceles triangle	Right triangle
Scalene triangle	**Altitude**	**Median**

How do you write a coordinate geometry proof?

Coordinate geometry proofs employ the use of formulas such as the Distance Formula, the Slope Formula and/or the Midpoint Formula as well as postulates, theorems and definitions.

Distance Formula	Slope Formula	Midpoint Formula

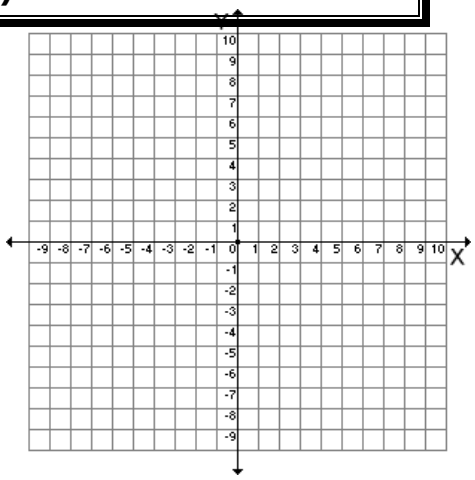
When developing a coordinate geometry proof:



1. Draw and label the graph
2. State the formulas you will be using
3. Show and label ALL calculations
4. Have a concluding sentence stating what you have proven and why it is true.

Now let's write a coordinate geometry proof

What type of triangle is ΔJAY? Given: J(0,6) A(4,2) Y(-3,-2)

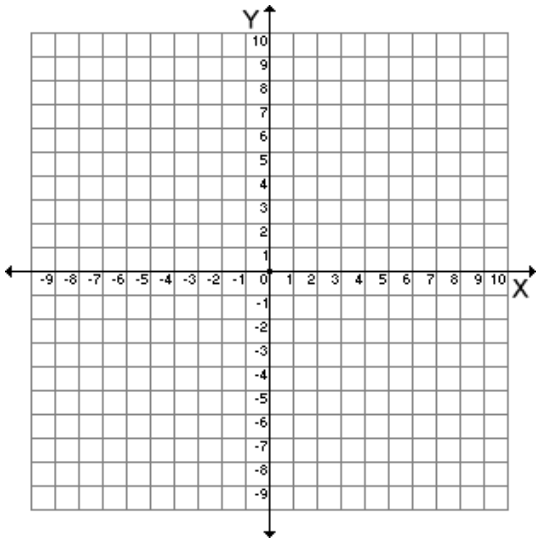


Formula(s) used:

Calculations/Reasons:

Conclusion:

Triangle proof #1:



Given: The points P(2,1) E(3,4) A(4,1) form a triangle.

Prove: ΔPEA is an isosceles triangle.

Formula(s):

Calculations/Evidence:

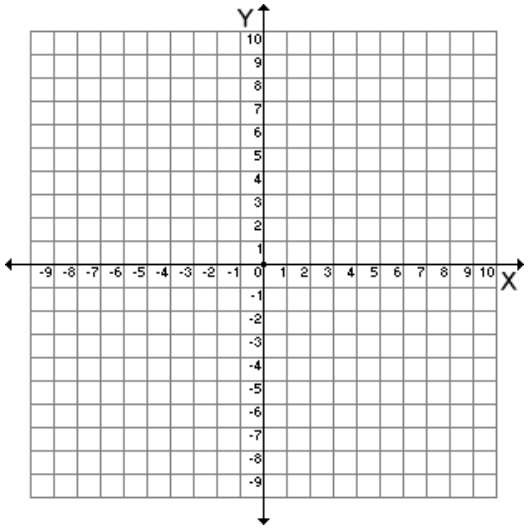
Conclusion:

Triangle proof #2:

If the points N(-5, 1) U(-1, 4) T(-1, 1) form a triangle, then prove

ΔNUT **is a right triangle.**

Formula(s):



Calculations/Evidence:

Conclusion: