Geometry Reflective Portfolio

Unit #3: Unknown Angles

Must be in folder with Study Portfolios 1 and 2!

Section #1: Vocabulary (words and/orlabeled diagrams)

- **Types of angle pairs:**

complementary	**supplementary**	**adjacent**
vertical	**alternate interior**	**alternate exterior**
corresponding	**same-side interior**	**linear pair**
***Isosceles Triangle*-draw, and label the parts (vertex angle, base angles, legs, base)**		**exterior angle of a triangle**

Section #2: Formulas/Equations/Theorems

- **Write each formula AND then calculate the slope, midpoint and length of the segment with endpoints at (3, -6) and (7, 2)**

Slope Formula:	**Midpoint formula:**	**Distance formula:**
You must show work: *Ans. 2*	***You must show work:*** *Ans. (5, -2)*	***You must show work:*** ***Leave in simplest radical form.*** *Ans.* $4\sqrt{5}$

- **Properties:**

Reflexive	**Symmetric**	**Transitive**

- **Sum of the measures of adjacent angles on a straight line is_____.**
- **Sum of the measures of adjacent angles around a point is_____.**
- **3 undefined terms of geometry are_____, _____ and _____.**

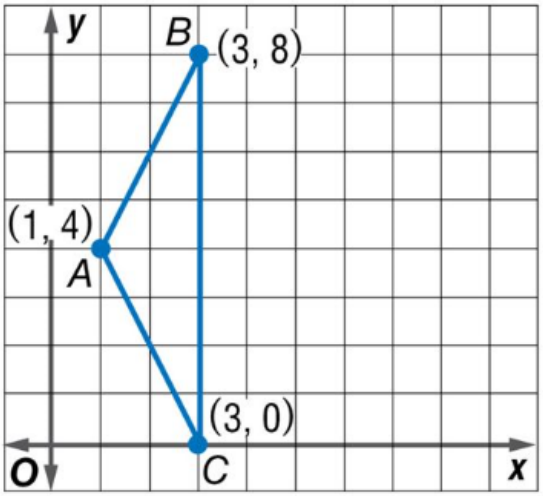
Complete each theorem:

Vertical Angle Theorem Vertical angles are formed by intersecting lines and these angles are_____.	**Linear Pair Theorem** Linear pair of angles are _____.	**Isosceles Triangle Base Angles Theorem** If a triangle has 2 congruent sides, then the angles opposite are_____.
Converse Isosceles Triangle Base Angles Theorem – If a triangle has 2 congruent angles, then the sides opposite are_____.	**Isosceles Triangle Symmetry Theorem –** The line containing the bisector of the vertex angle of an isosceles triangle is a line of_____ for the triangle.	**Isosceles Triangle Coincidence Theorem** In an isosceles triangle, the bisector of the vertex angle, the perpendicular bisector of the base, and the median to the base determine the _____.
Triangle Sum of Interior Angle theorems The sum of the measures of the interior angles of a triangle is _____.	**Triangle Exterior Angle theorems** The measure of the exterior angle of a triangle is equal to the sum of the two _____ The sum of the measures of an exterior angle and its adjacent interior angle is _____. The sum of the measures of all three exterior angles is _____.	**Triangle Inequality Theorems** The sum of two sides of a triangle must be _____ The exterior angle of a triangle is greater than either _____ The largest angle of a triangle is opposite the _____. The shortest side is opposite the _____ _____.

Centroid formula:

C=

Find centroid of triangle ABC.



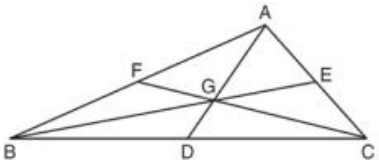
Ans. $(\frac{7}{3}, 4)$

Centroid theorem: The centroid of a triangle divides the median into a _____ ratio.

Example (not in coordinate plane):

You must show how you arrived at your answer!

In the diagram below of $\triangle ABC$, medians $\overline{AD}$, $\overline{BE}$, and $\overline{CF}$ intersect at G.



If $CF = 24$, what is the length of $\overline{FG}$? *Ans. 8*

The centroid is the point where all 3 _____ intersect and is the center of _____of the triangle.

Section #3: Key methods and Concepts

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

Equilateral triangle	Isosceles triangle	Scalene triangle
3 distance formulas all the same length		
Right triangle	**altitude**	**median**

How do you write the equation of the perpendicular bisector of a given line segment?

Process:
Steps: 1) Find the _____ of the given segment.

2) Find the _____ of the given segment.

3) Use the _____of that slope.

4) Use the midpoint and the _____ in step #3 to write the equation in point - slope form.

Ex. Write the EQ. for perpendicular bisector of segment with endpoints at (5, 0) and (-3, -4).

$ans.\ y + 2 = -2(x - 1)$

Did you review study portfolios #1 and #2? Review questions are on the test!!!!!!