

Geometry Reflective Portfolio

Unit #3: Unknown Angles

Must be in folder with
Study Portfolios 1 and 2!



Section #1: Vocabulary (words and/or labeled diagrams)

- Types of angle pairs:

complementary	supplementary	adjacent
vertical	alternate interior	alternate exterior
corresponding	same-side interior	linear pair
<u>Isosceles Triangle</u> -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: <u>You must show work:</u> Ans. 2	Midpoint formula: <u>You must show work:</u> Ans. (5, -2)	Distance formula: <u>You must show work:</u> <u>Leave in simplest radical form.</u> Ans. $4\sqrt{5}$
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- Properties:

Reflexive	Symmetric	Transitive
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- 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:

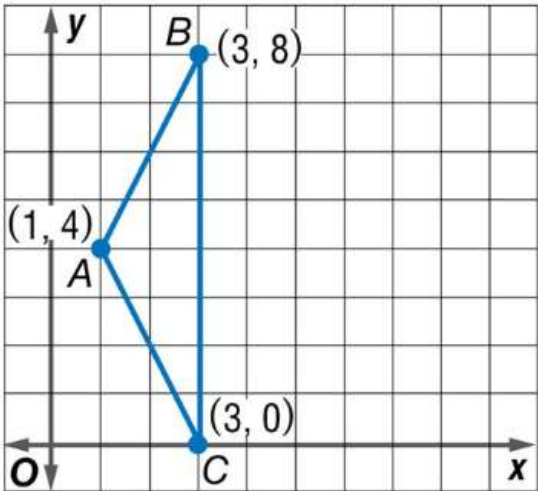
Vertical Angle Theorem Vertical angles are formed by intersecting lines and these angles are_____.	Linear Pair Theorem Linear pair of angles are _____.	Isosceles Triangle Base Angles Theorem If a triangle has 2 congruent sides, then the angles opposite are_____.
Converse Isosceles Triangle Base Angles 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)

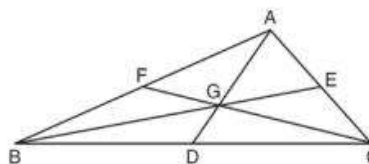


Centroid theorem: The centroid of a triangle divides the median into a _____ ratio.

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!!!!!!