

Advanced Geometry – Test: Unit 5 Outline
250 Points
Friday, November 18, 2011

I. Right Triangle Trigonometry

- Be able to define the three trigonometric ratios (sine, cosine, and tangent) in a right triangle
- Remember "SOH CAH TOA"
- Given a right triangle, be able to find the sin, cos, or tan of a specific angle
- Given a right triangle, solve for missing sides using trig ratios
- Find parts of "multi-step" problems using trig (2 examples below)
 - Height of a trapezoid or parallelogram
 - Length of a side of a quadrilateral / trapezoid / triangle
- Find angle measures in right triangles using inverse trig. functions
- Solve real-world (or word) problems using trig [know angle of elevation, angle of depression]

II. Right Triangles

- Know when to use the Pythagorean Theorem (only if you have a right angle and two side lengths)
- Perhaps know your Pythagorean Triples
- Be able to simplify radical expressions appropriately
- KNOW THE SPECIAL RIGHT TRIANGLES
 - 45-45-90 Right Triangle
 - 30-60-90 Right Triangle
 - In these cases, your answers must be EXACT (simplified radicals and fractions)
 - Be able to work problems with a few triangles "glued" together

III. Dilations

- Two major properties [matching sides proportional, matching angles congruent]
- Given a figure, be able to construct a specified dilation [eg... scale factor of 2.5 centered at P]
- Given two figures, find the center of dilation and scale factor

IV. Similar Polygons / Similar Triangles

- Know Polygon Similarity Postulate
- Given two similar polygons, solve for missing side lengths or missing angle measures
- Justify whether or not two triangles are similar
 - Know the triangle shortcuts for similarity (SSS, SAS, AA)
 - Be able to explain how you found the triangles were similar (or not similar)

V. Extensions of Similarity

- Side-Splitting Theorem: Be able to use this, especially if a figure doesn't have triangles
- Look over those problems we did in class (parallelograms, etc)
- Watch out for systems of equations that might emerge

Look these things over (in particular)

- Written Assignment #5
- Quiz #5
- In Class Graded Similarity Activity (Wednesday, November 16)