

Advanced Geometry – Test: Unit 6 Outline
250 Points
Friday, December 9, 2011

I. Terms (Not too many to know how to define here)

- Know how to define
 - Center of a regular polygon \diamond
 - Apothem \diamond
- Know what things are (will not need to define) [like sectors, segments, kites, etc...]

II. Previous Results that we use to find areas

- Pythagorean Theorem / Triples
- 45-45-90 and 30-60-90 special right triangles
- Trig Ratios
- Simplifying radicals / combining radicals appropriately

III. Right Triangles

- Pythagorean Theorem
 - ***You will be asked to prove this one way for 30 points.***
 - You will be given a card stock right triangle cut-out to draw the figure you will use to prove this theorem (That is, I will **NOT** provide figures for you.)
- How to tell if three side lengths form an acute, right, or obtuse triangle
 - Make sure to investigate if a triangle can be formed at all

IV. Area and Perimeter of Figures: FORMULAS WILL NOT BE PROVIDED!!!!

- Rectangles / Squares / Chunk figures apart
- Triangles
- Parallelograms (Base and Height must be perpendicular - trig?)
- Rhombuses
- Kites
- Trapezoids
- Circles
 - Arc Length
 - Sectors
 - Segments
- Regular Polygons
 - Be able to find hexagons and octagons exactly
 - Any other polygon, be able to use trig. ratios to find its area
 - Watch for circumscribed circle situations
- Unusual regions - watch for how to chunk figures apart
- “Challenging Area Problems” like those from in groups in class
- Probability
 - Be able to calculate the probability a randomly thrown dart would land in the shaded region of a figure. (Figures appearing complicated too.)

Watch out for when you are asked for EXACT form!!! You need simplified fractions, square roots, and π symbols in this case.
--

V. Applications - Be ready for any...

- Clock problems... know the rate at which the minute and hour hands move
- “Dog on a Leash” type problems

THIS IS A HUGE GRADE FOR THE 3rd GRADE PERIOD!!!