Math 118 - Dr. Miller - Topics List for Exam #2 - Thursday, November 5, 2009

Prepare for the exam by reviewing this topics list, your notes, activities, and all homework.

Basic Definitions and Properties:

1. Memorize, correctly spell all terms on Summary #3 for fill-in or matching problems.
2. Draw examples of each (attach arrows when needed!), labelling key parts. Identify examples and non-examples in a given diagram, as in HW #9 and #11.
3. Use correct notation to name points, lines, line segments, rays, angles; solve union and intersection problems about them.
4. Identify zero, acute, right, obtuse, straight, and reflex angles. Draw examples, including on square (HW #10) and circular (Activity: What's the Angle?) grids.
5. Compute angle measurements formed by *working* clock hands at a given time; name a time at which a given angle is formed.
6. Know the facts about angle measurement that are derived from a linear pair, vertical angles, a triangle, and parallel lines with a transversal. Spell correctly.
7. Find and explain the measurements of angles in parallel-and-transversal diagram. Recognize the notation for "parallel to" and for "perpendicular to."

Polygons:

1. Identify or draw a shape that is a simple/not, closed/not, polygon/not, convex/concave.
2. Apply the technique of the Jordan Curve Theorem to determine whether an indicated point is inside/outside a complicated curve, to determine whether one point can "attack" another. (Activity #8 and HW #14)
3. Know and spell the names for all polygons from 3-12 sides and up, vertex, side, and diagonal.
4. Know and spell the terms equilateral, equiangular, and regular; identify or draw polygons that have just one or several of these qualities.
5. Memorize, use, and explain the technique for the number of diagonals in an n-gon.
6. Memorize, use and explain the formula for the interior angle total in an n-gon.
7. Compute the angle total or measure of an individual angle when told the number of sides; find the number of sides when told about the angles.
8. Tell whether certain numbers of diagonals or interior angle measures are possible.
9. Find missing angle measurements in diagrams of polygons. (See HW #16.)

Triangles and Quadrilaterals:

1. Correctly spell the names of all types of triangles and quadrilaterals.
2. Draw or recognize examples, non-examples of each, marking key features.
3. Recognize when certain combinations of features are impossible and why. (See Activity #11.)
4. Find missing angle measurements in triangles as in HW #15.
5. Name quadrilaterals that have or lack given qualities; use the family tree.
6. Classify statements about triangles, quadrilaterals as always, sometimes, or never true, as in HW.