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NMH SUMMER SESSION

2010
College Prep Program
G E O M E T R Y

TEXT: *Geometry for Enjoyment and Challenge*, Richard Rhoad, George Milauskas, Robert Whipple; McDougal, Littell & Company

This course covered a full year of secondary school geometry. The goals of the course were twofold. Students received a strong introduction to proof and logic, and also were given the opportunity to explore common geometric shapes and their many interconnected properties. The first half of the course established a base of background knowledge, including definitions of points, lines, planes, parallels, perpendiculars, triangles, polygons, and circles. These allowed the introduction of basic proofs, at first with a few steps and then getting progressively more complex, including triangle congruence and similarity theorems, properties of parallel lines, as well as properties of parallelograms and special quadrilaterals. The second half continued further to focus on the Pythagorean Theorem and its many applications, some properties of circles, and finally the common formulas for area, surface area, and volume as applied to simple three-dimensional shapes.

Throughout the course, the homework assignments and reading from the textbook were supplemented with work on the computer using the Geometer's Sketchpad. This gave the students ample opportunity to construct and measure examples of the various geometric shapes they were studying as well as to confirm the results of some of the basic theorems that they proved in class. There were also numerous hands-on activities in the classroom, including games, puzzles and tessellations, as well as special presentations on fractal geometry and stereo vision. The students were given weekly tests on the chapters studied, as well as a comprehensive final exam.

The course met for three hours six mornings a week, plus 1.5 hours four afternoons a week, for the five-week session. The students also had two to three hours of homework each night.

Master Teacher: Roger Turton
Stoneleigh Burnham School

Teaching Intern: William Reid
Hamilton College