Geometry and Mathematical Reasoning
Syllabus for Summer 2009
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MIME Course Goals:
1. Strengthen the proficiency and understanding of the mathematics taught in grades 4 – 9.
2. Introduce and develop an understanding of the structure of mathematics behind the mathematics taught in grades 4 – 9.
3. Increase the appreciation of understanding the mathematics behind what is taught in middle school.
4. Increase confidence in the ability to reason mathematically.
5. Build tasks that help students in grades 4 – 9 increase their mathematical reasoning.

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/15 Geoboard and Shapes</td>
<td>6/16 Geoboard, continued</td>
<td>6/17 Geoboard and Area</td>
<td>6/18 Similarity &amp; Congruence</td>
<td>6/19 Problem Solving:</td>
</tr>
<tr>
<td>HW #1</td>
<td>HW #2</td>
<td>HW #3</td>
<td>HW #4</td>
<td>Hypsometer; Treasure Map</td>
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<tr>
<td>6/22 Exploring Treasure</td>
<td>6/23 Circles and Other Shapes</td>
<td>6/24 Circles/Shapes, continued</td>
<td>6/25 Post Test &amp; other paperwork (Grant Director)</td>
<td>HW #5</td>
</tr>
<tr>
<td>Work on initial draft of project</td>
<td>Work on initial draft of project</td>
<td>Work on initial draft of project</td>
<td>Putting it All Together</td>
<td>Poster Presentations</td>
</tr>
</tbody>
</table>

(Topics and dates subject to change)

Grades will be calculated using the following data:
1. **Homework:** 50% - A minimum of 5 homework assignments will be given. Each will be scored on the basis of 10 points.
2. **Project:** 30% + 5% - Each participant will create a task (or set of tasks) that helps to develop mathematical reasoning in their students. Participants are expected to present their tasks and rationale on the last day of the course.
3. **Attendance:** 15% - We require attendance and participation in our activities for each class. Your cooperation and participation is greatly appreciated!