

# MATH 476 – College Geometry

## Homework Assignment 1 and Proofs 1

**Homework:**

**Not to turn in**

1. **Section 2.1, page 59:** 5, 11, 13
2. **Section 2.2, page 67:** 6, 9 (9 is linked to Example 2.)
3. **Section 2.3, page 74:** 1, 2, 4, 6
4. **Section 2.4, page 87:** 3, 4, 8, 10, 11
5. **Section 2.5, page 99:** 2, 5, 8, 19

**Proofs:**

**Due Wednesday, September 13**

(8 proofs)

1. **Section 2.3, page 76:** 12 [The axioms referred to in the problem are I-1 through I-5.]
2. **Section 2.4, page 89:** 15, 17
3. Create an axiomatic system with three axioms, and verify that the axioms are both consistent and independent.
4. Using the axiomatic system you created in Proof 3, discover and prove a simple theorem.
5. Prove that if  $\overrightarrow{BA}$  is a ray, its opposite ray exists and is unique.
6. **Section 2.5:** 13