**Math 299**
Fall 2014    Homework 16                                    **Due**:   Thursday, Dec. 4

**Directions:**

- Print out this piece of paper and use it as a cover sheet. Write your name in the upper right hand corner.
- Your homework should be stapled and each problem should occur in order.
- Do not hand in scratch work.
- Homework is due at the start of class.

## 1. Problems

1. Textbook exercises: 11.1, 11.2, 11.5
2. Let $n \in \mathbb{Z}$ with $n > 1$. Prove that if $a \nmid n$ for all $1 \le a \le \sqrt{n}$, then $n$ is prime.
3. Textbook exercises: 11.15, 11.19, 11.32, 11.34