

Math 7500 - Test 1 Review

1. Prove there are infinitely many primes
2. Prove $\sqrt{2}$ is not rational
3. Show every square is of the form $4s$, $4s+1$
4. Name the five regular polyhedra (and describe) Prove that these are the only possible regular polyhedra.
5. I like the inradius outradius ideas, but **not** on the test. Sorry.
6. Diophantine equations.
7. Chinese Remainder Theorem Problems.
8. Know at least one proof of the Pythagorean Theorem.
9. A problem similar to 3.2.1 to 3.2.5
10. A problem similar to 4.4.1 to 4.4.3
11. Continued fractions.
12. You all remember (I am certain) the Basel problem. Present this.