Math 255 - Spring 2017
Exam 1 Information

Exam 1 will be in class on Wednesday March 1. It will cover almost all of the material that we have covered so far this semester, up to and including Section 4.4 of the textbook.

Please read these instructions carefully, as not heeding them will constitute a breach of the UVM Code of Academic Integrity:

- You may not use a calculator or any notes or book during the exam.
- You may not access your cell phone during the exam for any reason; if you think that you will want to check the time please wear a watch.
- The work you present must be your own.
- Finally, you will more generally be bound by the UVM Code of Academic Integrity, with which you should familiarize yourself if you haven't already.

You will be asked to acknowledge that you have read these instructions on the first page of the exam.

For each problem, you should write down all of your work carefully and legibly to receive full credit. For each question, you should use theorems and/or mathematical reasoning to support your answer, as appropriate.

Things that could be on Exam 1:

- Any reasonable proof by induction.
- Any proof or problem that is identical or substantially similar (same but with different numbers say) to a problem that was assigned on Homework 1, 2, 3, 4 or 5 or in the problems suggested between January 18 and February 27, inclusively. All homework solutions are posted on our course website. Answers to selected suggested problems have been posted on our course website. **Solutions to other problems will not be posted,** although I will answer any question you have on Piazza or during my office hours.
- Any problems that is identical or substantially similar to any problem from last year's Exam 1 (which is posted on our website along with its solutions) or to problem 2 or 4 from last year's Exam 2 (which is also posted on our website along with its solutions)
- Given any theorem (even one we have not studied!), state the hypotheses and the conclusion of the theorem, determine if the theorem can be applied to reach a certain conclusion.
- State and use any one of these important theorems/algorithms we have seen: the Well-Ordering Principle, the Division Algorithm (Theorem 2.1), Theorem 2.3, Theorem 2.4, the Euclidean Algorithm, Theorem 2.8, Theorem 2.9, the Fundamental Theorem of Arithmetic (Theorem 3.2), the primality test from Section 3.2, the Sieve of Eratosthenes, Theorem 3.4, Theorem 4.1, Theorem 4.7, the Corollary on page 77 and the Chinese Remainder Theorem
- Give the definition of: divisibility, the greatest common divisor (either the book definition or Theorem 2.6), relatively prime, the least common multiple, prime number (either the book definition or Theorem 3.1), unit, zero divisor, and congruence modulo n.

You will not be given any formulae for the exam.