

University of South Carolina
Math 574: Discrete Mathematics I
Section 001
Summer I 2012

Midterm Review

- Prove logical equivalence of two statements using truth tables. (e.g. # 2.1.16)
- Prove logical equivalence of two statements using equivalence laws (such as those found in Theorem 2.1.1). (e.g. # 2.1.50)
- Reason using valid argument forms from Table 2.3.1. (e.g. # 2.3.24)
- Write existential and universal predicates formally. (e.g. # 3.1.16, 3.1.18)
- Negate existential and universal predicates. (e.g. # 3.2.3)
- Reason using universal modus ponens and universal modus tollens. (e.g. # 3.4.21)
- Prove claims involving parity directly. (e.g. # 4.1.5, 4.1.24)
- Prove claims involving rational and irrational numbers directly. (e.g. # 4.2.15)
- Prove claims by (regarding parity, divisibility, or rationality) contradiction. (e.g. # 4.6.10)
- Prove claims by (regarding parity, divisibility, or rationality) contraposition. (e.g. # 4.6.19)
- Prove summation formulas by induction. (e.g. # 5.2.10)
- Prove correctness of explicit forms of recurrence relations using strong induction. (e.g. # 5.4.2)
- Write a recurrence relation to describe a process. (e.g. # 5.6.17)