
Math 307
Homework Due Wednesday, April 8

In the following, “Problem Set” refers to the set in the xerox copies I handed out in class.

1. Problem Set 1: #3, 6, 9, 16.
2. Problem Set 2: #6, 7, 12.
3. Problem Set 3: #2–5.
4. Problem Set 6: #3, 6 (write out the whole proof), 8. [Note: In Problem Set 6 you are not allowed to use CI or RCS/LCS; these are not introduced until the next section].
5. Problem Set 7: #1, 3, 7, 5–9, 13.
6. Write out the operation tables for (\mathbb{Z}_5, \cdot_5) and $(\mathbb{Z}_8, +_8)$.
7. Consider a 3×3 checkerboard. This board has 14 squares in it—nine 1×1 squares, four 2×2 squares, and one 3×3 square. Using this as a prototype, figure out how many squares there are in an $n \times n$ checkerboard for all numbers n from 1 through 8. Try to make a conjecture about a formula which works for any n . Explain both your computations and your reasoning.