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.

1. PRACTICE PROBLEMS (NOT TO BE HANDED IN)

- 1. If $a, b, n \in \mathbb{Z}$, and $n \ge 2$, give a precise mathematical definition for each of the following: • a|b
 - $a \equiv b \mod n$.
- 2. List 10 different integers k that satisfy $k \equiv 2 \mod 3$.

2. Problems

- 1. Read Chapter 4, sections 3 through 6
- 2. Section 4.2: 4.14, 4.15, 4.17, 4.18, 4.19 (*Hint:* use the properties we proved in class!), 4.21 (*Hint:* You can prove this with a total of three cases, which are exhaustive).
- 3. Section 1.1: 1.1, 1.2, 1.3, 1.4
- 4. Section 1.2: 1.10, 1.11, 1.14, 1.16, 1.22, 1.26, 1.32