

HOMEWORK #1 (DUE FRIDAY, SEPT. 19).

9/12/2014

Note: *Turn in only the “starred” problems; out of these, selected problems will be graded.*

Section 1.1, Exercises 6, 7, 8*, 9*, 11, 12, 18, 19, 20, 21, 22, 23, 23, 25*, 31*, 32, 33.

Section 1.2: Exercises 2, 3*, 4, 5.

Section 1.3, Exercises 1, 2, 5, 8, 9, 10, 11*.

Additional exercises:

1.* Prove Proposition 1 on page 2 in the textbook.

2.* Let $a \neq 0$ and $n \geq 2$ be integers. Prove that $\hat{a} \in \mathbb{Z}/n\mathbb{Z}$ has a multiplicative inverse in $\mathbb{Z}/n\mathbb{Z}$ if and only if $(a, n) = 1$.