

MATH 306 – HOMEWORK ASSIGNMENT I

1. Show that there is only one binary operation on the set $G = \{0, 1, 2, 3, 4, 5, 6, 7\}$ satisfying the following three conditions, and give the table.
 - a. $x * y \leq x + y$ for all $x, y \in G$.
 - b. $x * x = 0$ for all $x \in G$.
 - c. $\langle G, * \rangle$ is a group.
2. Exercise 5.43 on page 58.
3. Exercise 6.48 on page 67.
4. Exercise 8.21 on page 84.
5. Exercise 9.13 on page 94.

Due Date: March 24, 2014.