

## MATH 313 HOMEWORK 2, FALL 2015

DUE AT THE BEGINNING OF CLASS ON THURSDAY, SEPTEMBER 3

One goal for this course is for you to develop your skill in effectively communicating mathematics. With this in mind, you should clearly write up your solutions. Solutions with little or no justification will receive little or no credit.

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- (1) Read Sections 3 and 4 in Part 2 of the Gallian textbook.
- (2) On pages 68-73 do problems: 6, 10, 28, 32, 38 and 42, 52.
- (3) On pages 87-89 do problems 2, 8, 22, 34.
- (4) In class we gave examples of groups of order four whose elements have different multiplicative (or additive, depending on the operation) properties. Using two of our examples, write out the two distinct multiplication tables, and explain the distinction between them. Can you find a group of order four with a third, distinct, multiplication table. Explain your solution.