

# Math 314-02 Discrete Mathematics

## Fall 2014

### Homework Assignments

## Instructions

Complete all the problems in each section of the textbook as we go through them, as well as any other problems assigned in class. I will assign certain problems to be handed in; they will be due on the Monday of the following week. Although you may (and should) work together with your class mates, such cooperation should NOT include exchange of written material. The solutions you hand in have to be your own.

**Use 8.5in x 11in paper with smooth borders. Write your name on top of each page.**

### #1

Due Wednesday, 9/10

1. READ THE BOOK!
2. Exercise 1.2.8 on Page 8,
3. Exercise 1.2.10 on Page 8,
4. Exercise 1.3.2 on Page 14,
5. Exercise 1.3.3 on Page 14,
6. Exercise 1.8.2 on Page 20.

### #2

Due Wednesday, 9/17

1. Page 22: Exercise 1.8.17
2. Page 23: Exercise 1.8.26
3. Prove that  $n^3+2n$  is a multiple of 3. (Hint: use induction)
4. Page 34: 2.3.1
5. Page 41: Exercise 2.5.2

### #3

Due Wednesday, 9/24

1. Page 62: Exercise 3.8.4.
2. Page 63: Exercise 3.8.9.

3. Page 63: Exercise 3.8.10.
4. Page 63: Exercise 3.8.13.
5. Page 64: Exercise 3.8.15.

## #4

Due Friday, 10/10

1. Page 78: Exercise 5.1.5.
2. Page 80: Exercise 5.2.1.(see the 4th paragraph of 5.1 on Page 77-78 for the event E,O,T and L.)

## #5

See the email.

## #6

Due Wednesday, 11/5

1. Page 139: Exercise 7.3.3 (Only the dodecahedron).
2. Page 140: Exercise 7.3.8.
3. Page 140: Exercise 7.3.9.
4. Page 140: Exercise 7.3.12. ( $K_3$  is the complete graph with three nodes, i.e., the triangle).

## #7

Due Friday, 14/11

1. Read the section on *Prufer Code* (Page 150-152).
2. Page 149: Exercise 8.4.1.
3. Page 155: Exercise 8.5.4.
4. Page 155: Exercise 8.5.5.

## #8

Due Friday, 12/12

1. Exercise 12.3.1 on Page 195.
2. Exercise 13.3.4 on Page 204.
3. Exercise 13.4.7 on Page 210.
4. Exercise 13.4.8 on Page 210.

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