MATH/EECS 1028: Discrete Math for Engineers
Winter 2015
Tutorial 8 (Week of Mar 16, 2015)

Notes:

1. Assume $\mathbb{R}$ to denote the real numbers, $\mathbb{Z}$ to denote the set of integers $(\ldots, -2, -1, 0, 1, 2, \ldots)$ and $\mathbb{N}$ to denote the natural numbers $(1, 2, 3, \ldots)$.
2. Topics: Counting, Pigeonhole principle, Strong Induction.
3. Note: Attendance will be taken this week on Monday. The Friday section will have a quiz this week.

Questions:

1. Q61, p 396.
2. Let us represent the result of three tosses of a standard six-sided die (faces 1 through 6) as an ordered list of length 3. How many different results are possible? In how many of these are all three tosses different?
3. Q24, p 396.
4. Q44, p 396.
5. How many arrangements are there of the letters of the word MATCH? Of these how many of them habe the letters MA together? How many arrangements have the letters M,A together but not necessarily in that order?
6. Q7, p 342 of the text.
7. Q10, p 342 of the text.
8. Q14, p 342 of the text.
9. Q40, p 398.
10. Q41, p 398.
11. Given any 7 integers there will be four integers such that the sum of the squares of those integers is divisible by 4.