Discrete Mathematics 21-228
Assignment #1
Due Wednesday, May 19

1. Read sections 1.1 and 1.2 in the textbook. Optional (but recommended) problems: 1.2.1-1.2.18

2. Define:

   - $A = \{x \in \mathbf{R} : -5 \leq x < 17\}$
   - $B = \mathbf{Z}$
   - $C = \{y \in \mathbf{N} : y \text{ is a multiple of } 2\}$

   Write out set expressions for each of the following sets, as concisely as possible:

   - $A \cap B =$
   - $B \cup C =$
   - $(A \cup C) \cap B =$

3. If m indistinguishable 6-sided dice are rolled, how many possible outcomes are there? (Note if $m = 2$ then there are 21 possible outcomes.)

4. You have 100 one-dollar bills to distribute to thirty people. In how many ways can this be done? In how many ways can this be done if each person must receive at least one dollar?