Math 181 G1 Fall 2016 **Homework-2**

Due **Friday, November 18**

You are encouraged to discuss the problems with others, however, are expected to write down your own solutions.

1. If two coins are flipped and a die a rolled, what would be the size of the sample space?

2. Suppose there are 5 red balls, 3 blue balls, and 6 green balls. Let A be the event of picking one blue ball, B be the event of picking one red ball, C be the event of picking one green ball, D be the event of picking either red or a blue ball, E be the event of picking either red or a yellow ball, F be the event of picking either red or a green ball. Find $P(A), P(B), P(C), P(D), P(E), P(F \text{ or } A), P(A^C), P(B^C), P(C^C), P(D^C)$, $P(E^C)$, *and* $P(F \text{ or } A^C)$.

3. If three coins are tossed, what is the sample space? Find the probablity of the event A of getting the same outcome on all the tosses. If B denotes the event of getting at least one head, write down what the events $B, B^C, A \text{ or } B, A \text{ and } B, A^C \text{ or } B$, A^C *or* B^C mean, and also find the respctive probabliies.

Additional problems:

1. What didgit never appears as a check digit on a Postal Service money order?

2. Suppose that in an Avis identification number, the check digit 8 is mistaken for a 5. Is the error detected? What if the check digit 9 is replaced by 2?