MATH 10B with Prof. Stankova
Section#209; time: 3:30-5pm
GSI: Ninh DO

Quizz 1 Solution

Student:
SID:
Tue 1/29/19

True/False - No explanation needed. (2pts)

1. Shuffle the order of stages (or subprocesses) in a counting process does effect the final result when the subprocesses are independent of each other. True/False
   False

2. The union of n subsets is the addition of all individuals subset substractring their overlapping parts. True/False
   False

Problems - Need justification. No justification means **zero**!

1. How many one-to-one (injective) functions are there from the set $\{1, 2, 3\}$ to the set $\{1, 2, 3, 4, 5\}$? (5pts)

   First element in $\{1, 2, 3\}$ has 5 ways to be mapped into $\{1, 2, 3, 4, 5\}$. Second: 4 ways. Third: 3 ways. So the answer is $5 \times 4 \times 3$

2. How many 6-element RNA sequences contain at least one G? (5pts)
   Hint: Each element can be either A, C, G, U.

   Using complementary rule: $A = all - A^c = 4^6 - 3^6$, where all is the number of all possible 6-element RNA sequences, A^c is the number of the 6-element RNA sequences contain no A.