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

# Quizz 2

Student:
SID:
Tue 2/5/19

**True/False** - No explanation needed. (1pt for correct, 0pt - no answer, -1pt - incorrect)

1. $C(n, r) = C(n, n - r)$. True/False
2. A number of ways to arange $n$ objects is $\frac{n!}{(n-r)!}$, where $r$ is the number of the distinct objects. True/False

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

1. (5pts) Show that in a group of 31 people, all of whom are female, male or non-binary, at least one of the following must be true:
   (a) At least 5 are female
   (b) At least 24 are male
   (c) At least 4 are non-binary

   Hint: $31 - 4 - 3 = 24$

2. (5pts) How many ways are there to arrange 8 men and 12 women standing in a line so that no two men stand next to each other?