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

Quiz 4

Student:
SID:
Tue 2/19/19

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

1. The bubble sort algorithm runs faster for the list of increasing order compared to that of random order. True/False
2. Suppose there are n men and n women that have the strictly opposite preferences, i.e. all men prefer $w_n > w_{n-1} > ... > w_1$, all women prefer $m_1 > m_2 > ... > m_n$. If we run the stable matching algorithm to couple them, the result is unstable, i.e. there is at least one couple who both can find a better match. True/False

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

1. (10pts) Prove, for all positive integer n:

$$\frac{1}{2*4} + \frac{1}{4*6} + \frac{1}{6*8} + ... + \frac{1}{2n*(2n+2)} = \frac{n}{4n+4}$$