

## Homework Set 1

DUE: FEB 3, 2020 (AT THE BEGINNING OF CLASS)

**To be handed in:**

*Please write your solution to Problems 1 and 2 on a single sheet of paper!*

1. How many ways are there to walk from the CUNY Graduate Center (located on the corner of 34th Street and 5th Avenue) to Columbus Circle (located on the corner of 59th Street and 8th Avenue)?

Note: Assume you are walking only along streets (moving west) and avenues (moving north) and not through buildings or on diagonal streets (such as Broadway), and also not taking unnecessary detours (that is, you only walk west and north, never east or south).

2. In how many ways can the letters in the word MATHEMATICS be reshuffled so that **all consonants appear together**?