

Fall 2016 COT 3100 Section 1 Quiz #3: Counting

First Name: _____, Last Name: _____

Lab Section: 11 12 13 18 19 21 22

Please put a box around your final answer. Describe in words what the numbers in your response represent. Print neatly, especially your **NAME!!!**

1) (5 pts) How many permutations are there of the letters in the word DIFFERENCE?

2) (5 pts) Erin has to choose a subset of candy bars from a choice of 10 candy bars, of which one is a Snickers bar and another is a Mars bar. How many subsets (possibly empty) can she choose out of the 10 candy bars that includes at least one of the two mentioned items (Snickers, Mars)?

3) (5 pts) A class has 10 freshmen and 20 sophomores. We want to pick a committee of 6 students from the class that has *more* sophomores than freshmen. In how many ways can we choose the committee?

4) (10 pts) Jessica wants to arrange 7 rose plants, 5 tulip plants and 6 sunflower plants in a row such that in some place in the row at least 2 rose plants appear right next to each other. In how many ways can she arrange her flowering plants.