

Warmup 2: Set Theory and the Multiplication Principle

1. A survey on campus registration was conducted on 4000 students. It found that 2000 students were not able to add all the courses they wanted, 3000 students requested closed class overloads, and 500 students could not access OSCAR during their time ticket window. There were 1500 students who did not have all the classes they wanted and also requested overloads, 300 who did not have all their desired classes and could not access OSCAR, 200 who requested overloads and could not access OSCAR, and 50 poor students had all three registration problems.

(a) Draw a Venn Diagram for this problem, and label the number of students in each of the eight regions. (b) Determine how many students experienced exactly two of the above registration problems.

2. Your Georgia Tech student ID is a 9-digit number that begins with the numbers "90", and the third number is either 0, 1, or 2. How many GTIDs are possible? How many GTIDs have no repeated digits?