Combinatorics 2018 HW 5.1

Student ID: Name: Score:

1. A basket of fruit is being arranged out of apples, bananas, and oranges. What is the smallest number of pieces of fruits that should be put in the basket in order to guarantee that either there are at least 8 apples or at least 6 bananas or at least 9 oranges?

2. Show that for any given 52 integers there exists two of them whose sum, or else whose difference, is divisible by 100.