

MATH 20 – LICENSE PLATES GROUPWORK

In each of the following questions, count the number of possible license plates satisfying the following restrictions. These problems are for practice, not for grade. Please work in groups of 2-5 people.

1. The plate has 6 characters, all digits, not starting with 0.
2. The plate has any 3 digits followed by 3 distinct letters.
3. The plate has any 3 digits and any 3 letters in any order.
4. The plate has 7 characters (digits or letters) and is a palindrome (the same written backwards).

5. The plate has 7 distinct digits written in increasing order.
6. The plate has 7 digits (not necessarily distinct) written in increasing order (eg. 1344566 is allowed, but 1345646 is not).
7. The plate has 8 characters: 2 A's, 3 S's, and 3 9's.
8. The plate has 8 characters: 2 vowels, 3 consonants, and 3 digits.