

Class Problem
Math 2513
Wednesday, July 7

PROBLEM. How many strings of lower case letters with length four satisfy:

- (a) the string contains no x 's?
- (b) the string has an x in the second position?
- (c) the string has an x in the second position but not in the first position?
- (d) the string has an x somewhere in it?

ANSWERS:

- (a) There are $25^4 = 390,625$ words of length 4 which contain no x 's.
- (b) There are $26^3 = 17,576$ words of length 4 which have an x in the second position.
- (c) There are $25 \cdot 26^2 = 16,900$ words of length 4 which have an x in the second position but not the first.
- (d) There are $26^4 - 25^4 = 66,351$ words of length 4 which contain at least one x .