

NAME:

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DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

CSI30

Quiz 4 Sample

Instructions

Solve all problems and mark your answers clearly. Each problem is worth the indicated points. Show all work, using additional paper if needed.

1. (10) How many license plates can be issued where the first two characters are letters (English, upper case) and the last 4 characters are digits?
2. (10) How many ways exist to pick a winner, a first runner-up, and second runner-up in a science contest involving 12 contestants?
3. (10) How many ways exist to pick a committee of 6 people from a club with 10 members?
4. (10) How many permutations of the letters abcdefg begin with two vowels and end with 5 consonants?
5. (10) What is the coefficient of the term containing x^4y^7 in the binomial expansion of $(x+y)^{11}$?
6. (10) How many bitstrings of length 5 contain exactly 3 ones?
7. (20) How many one-to-one functions can be defined from a set of 8 elements to a set of 11 elements?
8. (20) How many bitstrings of length 8 exist beginning with two 1's or ending with a zero?