

Homework 2  
MTH 3210 Probability and Statistics  
Due Tue., Feb. 12

Unless stated otherwise, you must **show your work** to receive full credit.

Read These Sections of the Book	Then Do These Problems
2.1	8, 9, 10
2.2	12, 13, 14, 22, 26
2.3	29, Problem 1 (below)

1. A friend is having a dinner party. His wine supply includes seven bottles: a zinfandel, a pinot noir, a cabernet sauvignon, a chardonnay, a sauvignon blanc, a riesling, and a syrah.
  - (a) If he wants to serve three bottles one after the other, and serving order is important, how many ways are there to do this?
  - (b) If instead he wants to serve the three bottles at the same time (so there's no serving order), how many ways are there to do this?
  - (c) If he wants to serve the three bottles at the same time (so there's no serving order), and he selects the three bottles randomly, what's the probability that he'll end up serving the pinot noir, the chardonnay, and the sauvignon blanc?