Quiz 3

You are welcome to use a calculator for this quiz but realize the incorrect answer with no supporting work will receive no partial credit.

1. [2] A campus newspaper plans a major article on spring break destinations. The authors intend to call four randomly chosen resorts at each destination to ask about their attitudes toward groups of student as guests. Here are the resorts listed in one city:

Aloha Kai	Captiva	Palm Tree	Sea Shell
Anchor Down	Casa del Mar	Radisson	Silver Beach
Banana Bay	Coconuts	Ramada	Sunset Beach
Banyan Tree	Diplomat	Sandpaper	Tradewinds
Beach Castle	Holiday Inn	Sea Castle	Tropical Breeze
Best Western	Line Tree	Sea Club	Trpical Shores
Cabana	Outrigger	Sea Grape	Veranda

   Use Table B staring on line 130 and determine the newspapers random sample.

2. People who eat lots of fruits and vegetables have lower rates of colon cancer than those who eat little of these foods. Fruits and vegetables are rich in "antioxidants" such as vitamins A, C, and E. Will taking antioxidants help prevent colon cancer? A medical experiment studied this question with 864 people who were at risk of colon cancer. The subjects were divided into four groups: daily beta-cartene, daily vitamins C and E, all three vitamins every day, or daily placebo. After four years, the researchers were surprised to find no significant difference in colon cancer amounts the groups.

   (a) [2] What does "no significant difference" mean in describing the outcome of the study?

   (b) [1] Suggest some lurking variables that could explain why people who eat lots of fruits and vegetables hav lower rates of colon cancer.

3. [2] In the popular Texas Hold'em variety of poker, players make their best five-card poker hand by combining the two cards they are dealt with three of five cards available to all players. You read in a book on poker that if you hold a pair (two cards of the same rank) in your hand, the probability of getting four of a kind is 88/1000. Explain carefully what this means.

4. The Normal distribution with with mean $\mu = 6.8$ and standard deviation $\sigma = 1.6$ is a good description of the Iowa Test vocabulary scores of seventh-grade students in Gary, Indiana. This is a coninuous probability model for the score of randomly chosen students.

   (a) [1] Draw the density curve that will be used for the probability model.

   (b) [2] Find the probability that a student chosen has a score of 10 or higher.