Quiz 3

Key (2 typos)

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:

label ±1 digit size ±.5 ±.5

00 Aloha Kai	07 Captiva	14 Palm Tree	21 Sea Shell
01 Anchor Down	08 Casa del Mar	15 Radisson	22 Silver Beach
02 Banana Bay	09 Coconuts	(16) Ramada	23 Sunset Beach
03 Banyan Tree	10 Diplomat	(17) Sandpaper	24 Tradewinds
04 Beach Castle	11 Holiday Inn	18 Sea Castle	25 Tropical Breeze
(05) Best Western	12 Line Tree	19 Sea Club	26 Trpical Shores
06 Cabana	13 Outrigger	(20) Sea Grape	27 Veranda

example 8.6 pg 197

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

~~69~~ (05) 51 ~~64~~ (16) 17 ~~87~~ (17) ~~71~~ ~~09~~ (15) 17 ~~84~~ 53 ~~4~~ ~~06~~ 48 ~~9~~ ~~87~~ (20) 01 97209

Best Western, Ramada, Sandpaper Sea Grape

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.

Ch 9 #45 d & e

typo →

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

The variation of colon caner observed in each group was small enough to have been the result of chance alone.

using definition on pg 221

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

typo →

Perhaps people who eat lots of fruits & vegetables have healthier diets or lifestyles. Perhaps it is another part of the fruit (like the fiber) that is causing the effects or perhaps it is a compounded effect of fiber and antioxidants.

Ch 10 #1

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.

(+.5)

If you played many hands of Texas Hold'em with the pair you are holding now, the proportion of hands with which you could make four of a kind would be about 88/1000.

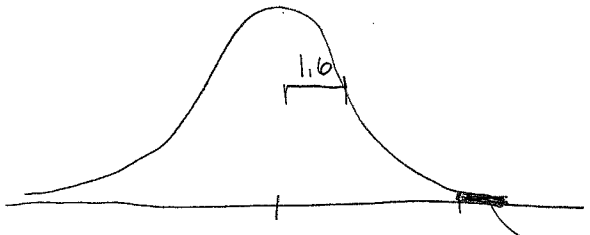
(+1)

partial +1 if says what it doesn't mean

Ch 10 #15

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 continuous probability model for the score of randomly chosen students.

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



Shape (+.5)
numbers (+.5)

looking for this area

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

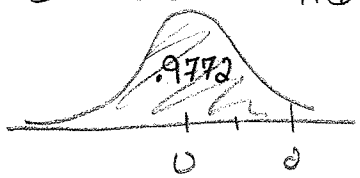
Calc

.02275 = normalcdf(10, 10000, 6.8, 1.6)

.02275 = normalcdf($\frac{10-6.8}{1.6}$, 1000)

Table A

z-score $\frac{10-6.8}{1.6} = 2$



$\Rightarrow$ 1 - .9772 = .0228

2.28%