

Instructions: This quiz is to be completed entirely in class. You may not use cell phones, and you may only access internet resources you are specifically directed to use. Go to Blackboard and open the data file posted under Quiz #1. Use it to answer the following questions. Place your answers to the bolded questions directly on this page.

1. Using the dataset as the sampling frame, select a simple random sample of 10 students and use that sample to calculate the **mean previous salary**.

answers will vary

eg. \$53,550 or \$59,130

2. Sort the data by gender and calculate the mean previous salary of each group using the entire data set as the sample. **Calculate a confidence interval for the difference of the means. Does it suggest that there is a difference between the previous salaries of male and female students?**

(3869.34, 5969.51)

yes, it strongly suggests there is more than a \$4000 gap in previous salaries

3. Maggie Stewart loves desserts, but due to weight and cholesterol concerns, she has decided that she must plan her desserts carefully. There are two possible desserts she is considering: snack bars and ice cream. After reading the nutrition labels on the snack bar and ice cream packages, she learns that each serving of a snack bar weighs 37 grams and contains 120 calories and 5 grams of fat. Each serving of ice cream weighs 65 grams and contains 160 calories and 10 grams of fat. Maggie will allow herself no more than 450 calories and 25 grams of fat per day. Also, she assigns a "taste" index to *each gram* of each dessert, where 0 is the lowest and 100 the highest. She assigns a taste index of 95 to ice cream, and 85 to snack bars. Use solver to find the daily dessert plan that stays within her constraints and maximizes the total taste index of her dessert. **How many servings of snack bars and ice cream may she eat?**

Non-integer solution 1.25 snack bars and 1.875 servings of ice cream

Integer solution 1 snack bar and 2 servings of ice cream