Possible Solutions for Homework #4

Econ B2000, MA Econometrics

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Fall 2014

1. What are the names of the people in your study group?
2. Using the Consumer Expenditure (CEX) Survey data from class, create a linear regression to explain the ratio of expenditures on food at home (FDHOMEPQ) to food away from home (FDAWAYPQ). Choose some useful explanatory variables. Explain the output. Could you do better with a different functional form of the dependent variable? [For which definitions of "better"?]
3. Again with CEX data, consider the ratio of expenditure on housing (HOUSPQ) to income. Conventionally households spending more than 33% of income on housing are at risk. Can you create a k-nn model to classify households spending "too much" on housing? What predictors are useful?
   Answers will vary.

4. [extra just for review if necessary] Calculate the answers. You might usefully draw pictures as well as making the calculations.
   For a Normal Distribution with mean 12 and standard deviation 0.3 , what is area to the right of 11.82 ?
   correct 0.7257
   For a Normal Distribution with mean -9 and standard deviation 1.9 , what is area to the right of -8.43 ?
   correct 0.3821
   For a Normal Distribution with mean 12 and standard deviation 1.2 , what is area to the right of 11.4 ?
   correct 0.6915
   For a Normal Distribution with mean 1 and standard deviation 6.3 , what is area to the right of 8.56 ?
   correct 0.1151
   For a Normal Distribution with mean 9 and standard deviation 0.9 , what is area to the right of 9.09 ?
   correct 0.4602
   For a Normal Distribution with mean 15 and standard deviation 1.5 , what is area to the left of 18.6 ?
   correct 0.9918
   For a Normal Distribution with mean -15 and standard deviation 0.9 , what is area to the left of -16.44 ?

correct 0.0548
For a Normal Distribution with mean 10 and standard deviation 0.7 , what is area to the left of 10.14 ?
correct 0.5793
For a Normal Distribution with mean 4 and standard deviation 9.8 , what is area in both tails farther from the mean than 11.84 ?
correct 0.4237
For a Normal Distribution with mean -14 and standard deviation 4.9 , what is area in both tails farther from the mean than -6.65 ?
correct 0.1336
For a Normal Distribution with mean 2 and standard deviation 3.2 , what is area in both tails farther from the mean than -5.36 ?
correct 0.0214
For a Normal Distribution with mean -5 and standard deviation 6 , what is area in both tails farther from the mean than 5.8 ?
correct 0.0719
For a Normal Distribution with mean 3 and standard deviation 4.9 what values leave probability 0.146 in both tails?
correct -4.124 10.124
For a Normal Distribution with mean 8 and standard deviation 4.4 what values leave probability 0.005 in both tails?
correct -4.351 20.351
For a Normal Distribution with mean -14 and standard deviation 7.5 what values leave probability 0.298 in both tails?
correct -21.805 -6.195
For a Normal Distribution with mean 2 and standard deviation 0.5 what values leave probability 0.12 in both tails?
correct 1.223 2.777