1. **Polling**
Hillary and Barack compete in the primary of a large state. They are the only two candidates. Five minutes after the polls close the Constant News Network announces the results of an exit poll. In a random, representative sample of 200 primary voters (all of whom tell the truth), they find that 56% voted for Hilary.

Let \( p \) be the true proportion of primary voters that voted for Hillary.

a. Calculate and report a 95% confidence interval for \( p \), showing your steps.

b. The Constant News Network declares that Hillary has won the primary (i.e., that \( p > 0.5 \)) based on the sample of 200 voters. What’s the probability that the Network is wrong?

c. Have you used the central limit theorem in answering (a) and/or (b)? If so, explain.
2. **Data gathering exercise.** *(Submit a page or two with two graphs, stapled to this question sheet.)*

a. Gather data from a *controlled experiment*. Report the values of one variable (X) that you controlled (or randomly assigned) and another (Y) that was influenced by X. You should have at least 15 observations. *(The “demand for coffee” survey performed in class was an experiment in which X was price and Y was quantity demanded.)* *Do not* survey people on their demand for coffee.

Report the source of the data, the sample mean of each variable and attach an X-Y graph (scatterplot). *(Stata is good at this. Recall that Stata is available in the lab or can be leased on the Internet.)*

b. Gather *nonexperimental* data on two variables X and Y that may be related. You should have at least 40 observations. *(GDP growth and unemployment are an example. Don’t choose GDP growth and unemployment)*

Report the source of the data, the sample mean of each variable and attach an X-Y graph (scatterplot) using Stata.

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*Notes:* *Experimental data are hard to come by. You may choose to simply conduct an experiment yourself.*

*Nonexperimental data are available from many published sources, including USA Today and the Baseball Digest. On the Internet try [www.nber.org/data].*

*Keep your data. You may need it for some future exercise.*
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I hereby authorize the UCSD Economics Department to return my graded examinations and problem sets by placing them in a location accessible to all students in the course. I understand that the return of my examinations and problem sets as described above may result in disclosure of personally identifiable information, that is not public information as defined in UCSD PPM 160-2, and I hereby consent to the disclosure of such information.

Quarter W08 Course: Econometrics 120B Date: ___

Instructor: Eli Berman

Student ID# ________________

Print Name____________________

Signature____________________