

Quiz 6 (Group) for Statistics 113
Statistics and Society–Fall 2000
Material Covered: Chapters 23,24,25 of notes and text
For: Wednesday, 15th November

Name 1 (please print): _____
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A survey organization takes a SRS of 625 households from a city of 80,000 households. On the average, there are 2.30 persons per sample household and the SD is 1.75.

- (a) [1] **True / False.** The SE for the sample average is 0.07.
- (b) [1] **True / False.** A 95% confidence interval for the average household size in the sample is 2.16 to 2.44.
- (c) [1] **True / False.** A 95% confidence interval for the average household size in the city is 2.16 to 2.44.
- (d) [1] **True / False.** 95% of the households in the city contain between 2.16 to 2.44 persons.
- (e) [1] **True / False.** The 95% confidence interval is about right because household size follows the normal curve.

- (a) [1] **True.** The SE is $\frac{1.75}{\sqrt{625}} \approx 0.07$
- (b) [1] **False.** CI is for *population*, not sample.
- (c) [1] **True.** 95% CI: $2.3 \pm 2 \times \frac{1.75}{\sqrt{625}} \approx 2.3 \pm 0.14$
- (d) [1] **False.** The 0.07 is not the SD of all of the (individual) data in the population, but is the SE of the *average* of the *sample* used to estimate the SD of the *average* of the population.
- (e) [1] **False.** Household size probably does *not* follow a normal curve, because $2.3 - 2(1.75) = -1.2$, indicating a negative household size.