XIII. Place the number of the appropriate item in the space provided.

A. Standard error of the mean _____

B. 99% confidence interval _____

C. Standard error of the proportion _____

D. Requires n be ≥ 30 _____

E. Acceptable error _____

1.	$\bar{x} \pm 2.58\frac{\sigma}{\sqrt{n}}$
2.	$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$
3.	$\bar{x} \pm 2.58\frac{s}{\sqrt{n}}$
4.	E
5.	$\sqrt{\frac{\bar{p}(1-\bar{p})}{n}}$

XIV. Answer the following true or false and fill in the blank questions.

A. The standard error of the mean will be halved if the sample size is doubled. _____

B. Sampling error exists because a nonrepresentive sample was taken in place of a census. _____

C. A one-number estimate of the population mean is called a _____ estimate of the mean.

D. A range for a population parameter is called the _____ _____.

E. A _____ _____ _____ may be more accurate than a simple random sample because a small diverse section of the population might not be represented in a simple random sample.

XV. A sample of 36 out of 25,000 baseball fans attending a game revealed average refreshment spending of $7.60. The standard deviation for the population is $2.10. Calculate the 95% confidence interval for average refreshment spending by fans attending this game.

Refreshment Spending Data Set for those using statistics software			
4.50	8.00	9.00	9.00
6.95	4.90	7.00	8.05
10.00	8.00	9.50	2.00
11.00	9.00	5.00	8.00
8.05	8.50	10.00	4.80
6.00	4.90	11.00	9.00
6.50	7.00	7.00	8.00
11.00	8.00	5.00	5.75
9.10	6.00	9.10	9.00

XVI. A marketing test of chocolate flavored shaving cream revealed a favorable response from 35 of 50 test subjects. Test subjects were chosen at random from the company's 1,200 employees. Calculate the following:
A. The 90% confidence interval for this market test.

B. The company is unhappy with the confidence interval calculated above and would like to lower acceptable error from 11% to 5%. How large a sample must be taken?

Data set for those using statistics software				
Favorable (F) and Unfavorable (U) Attitudes Toward Chocolate Flavored Shaving Cream				
U	F	F	F	F
F	U	F	F	U
U	F	U	F	F
U	F	F	F	U
F	U	F	F	F
U	F	F	U	F
F	F	F	F	F
U	F	F	U	U
F	F	F	F	F
F	F	F	U	U