CHAPTER 9 REVIEW QUIZ

1. **What is the difference between a parameter and a statistic?**
A) A parameter describes the sample and a statistic describes the population
B) In statistical practice, a parameter is known and a statistic is unknown
C) A parameter can be computed from a sample data and a statistic can be computed from a population
D) A parameter is a number that describes the population and a statistic is a number that can be computed from the sample data without the use of unknown parameters

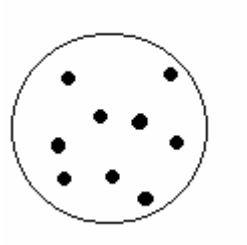
2. **The sampling distribution of a statistic is?**
A) Is the distribution of values taken by the statistic in 1 sample
B) A method of estimating a parameter
C) A method of describing how the statistic varies in repeated data production
D) The distribution of values taken by a statistic in all possible samples of the same size from the same population
E) Both C and D

3. **Which of the following is true when used to describe sampling distibutions?**
A) Overall shape: symmetric and approximately normal
B) Whether there are outliers or other important deviations from the overall pattern
C) The center of the distribution is very close to the true value of p
D) The values of p-hat have a large spread
E) A,B,C, and D

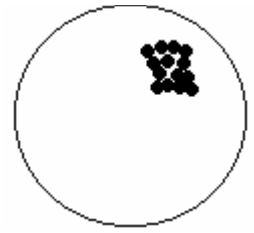
4. **What does an unbiased statistic mean?**
A) The center of the sampling distribution is not equal to the true value of the paramter
B) The statistic systematically favors certain outcomes
C) The mean of the sampling distribution is equal to the true value of the parameter being estimated
D) Both A and C

5. **Which of the following has high bias and low variability?**

A) E) NONE OF THE ABOVE



B)



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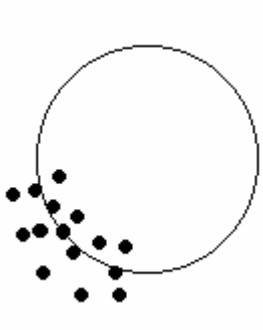

6. **The variability of a statistic is determined by?**

A) The size of the sample
B) The size of the experimental groups
C) The spread of its sampling distribution
D) The population size
E) A,B, and C

7. **We have an SRS of size n=1600 from a population in which the proportion p=.60 and the sample proportion p-hat=.38, what is the standard deviation?**
A) 0.0123
B) 0.01225
C) 0.461
D) .8846

8. **Which of the following allows us to use the normal approximation to the sampling distribution?**
A) Square-root of p(1-p)/n
B) np>10
C) n(1-p)>10
D) Population= 10 x Sample Size
E) Both B and C

9. **What does the Central Limit Theorem state?**
A) For large n the sampling distribution of x-bar is approximately normal for any population with finite standard deviation.
B) The observed mean outcome of x-bar must approach the true mean
C) The statistic x-bar varies in all possible samples from the population
D) Since the population has a normal distribution, so does x-bar

10. **What does the Law of Large Numbers state?**
A) An observed effect too large to attribute plausibly to chance
B) Draw observatons at random from any population with finite mean
C) As the number of observations drawn increases, the mean x-bar of the observed values gets closer and closer to the true mean
D) Both B and C