**A \_\_\_\_\_\_\_\_consists of all items of interest for a particular decision or investigation—for example, all individuals in the United States who do not own cell phones, all subscribers to Netflix, or all stockholders of Google.**(1 mark)

Top of Form



Sample



None of the above



Probability sampling



Stratified sample



Population

Bottom of Form

**A 100(1-alpha)% confidence interval for the proportion is *p*^​±*zα*/2​*np*^​(1−*p*^​)​​ . What does *p*^​ refer to in the equation?**

(1 mark)

Top of Form



unbiased estimator of population proportion



~~number of samples with desired characteristic in the population~~



~~number of samples in the population~~



*π*=3.14159



~~population proportion~~

Bottom of Form

**The formula *n*−1∑(*x*−*x*ˉ)2​ is the estimator for \_\_\_\_\_.**

(1 mark)

Top of Form



*~~s~~*



*p*^​



*x*ˉ



*σ*2



*s*2

Bottom of Form

**Sampling distribution of the mean will be approximately normally distributed \_\_\_\_.**

(1 mark)

Top of Form



~~regardless of the distribution of the population~~



if central limit theorem is true



none of the options



if sample size is large



if population is normally distributed

Bottom of Form

**Which of the following is one of the purposes of sampling?**(1 mark)

Top of Form



To identify general categories into which cases or people will be selected, and then select cases to reach a predetermined number of cases in each category



To begin with a few cases and then based on information about interrelationships from that case, identify other cases



To select anyone a researcher comes across



To obtain sufficient information to draw a valid inference about a population



To find out how much a sample deviates from bring representative of the population

Bottom of Form

**If the expected value of an estimator equals the population parameter it is intended to estimate, the estimator is said to be \_\_\_\_\_\_\_\_.**

(1 mark)

Top of Form



Falsifiable



Reliable



None of the above.



Unbiased



Biased

Bottom of Form

**\_\_\_\_\_\_ refers to the \_\_\_ of the sampling distribution of the mean.**

(1 mark)

Top of Form



Sampling error; variance



Variance; standard deviation



Standard error of the mean; standard deviation



Sampling error; standard deviation



Standard deviation; standard error of the mean

Bottom of Form

**The \_\_\_\_\_\_\_\_ is a family of probability distributions with a shape similar to the standard normal distribution.**

(1 mark)

Top of Form



Frequentist interference



Log-normal distribution



Gaussian q-distribution



t-distribution



None of the options.

Bottom of Form

**\_\_\_\_\_\_\_\_ states that if the sample size is large enough, the sampling distribution of the mean is approximately normally distributed, regardless of the distribution of the population and that the mean of the sampling distribution will be the same as that of the population.**(1 mark)

Top of Form



Oppermann's conjecture



Central limit theorem



Chebyshev's theorem



None of the options



Prime number theorem

Bottom of Form

**A \_\_\_\_\_\_\_\_ is a range of values between which the value of the population parameter is believed to be, along with a probability that the interval correctly estimates the true (unknown) population parameter.**

(1 mark)

Top of Form



Standard error of the mean



Sampling distribution of the mean



None of the options.



Confidence interval



Point estimate

Bottom of Form

**Which of the following is an example of a point estimate?**

(1 mark)

Top of Form



inter-quartile range



confidence interval



~~prediction interval~~



mean



~~Probability of X~~

Bottom of Form

**A \_\_\_\_\_\_\_\_ is one that provides a range for predicting the value of a new observation from the same population.**

(1 mark)

Top of Form



Standard error of the mean



Confidence interval



Sampling distribution of the mean



Prediction interval



None of the options.

Bottom of Form

**\_\_\_\_\_\_\_\_ occurs when the sample does not adequately represent the target population.**(1 mark)

Top of Form



None of the options



Sampling error



Nonsampling error



Measurement error



Analysis error

Bottom of Form

**Which of the following is a difference between interval estimates and point estimates?**

(1 mark)

Top of Form



None of the options.



Point estimates on an average provide more information than interval estimates.



Point estimates provide only a single value for a sample, while interval estimates provide a range of values.



Point estimates indicate the magnitude of potential error in the estimate, while interval estimates don't.



Point estimates cannot be used to calculate statistical error, while interval estimate is used to calculate statistical error.

Bottom of Form

**Given the parameters for a population to be mean=65, s.d. = 11, what is the sample size required to ensure sampling error does not exceed 3 with alpha = 0.05?**

(1 mark)

Top of Form



51



54



50



52



55

Bottom of Form

**As sample size \_\_\_\_\_\_\_\_ , sampling error \_\_\_\_\_\_\_\_ .**(1 mark)

Top of Form



Increases, doesn’t change



None of the options



Increases, decreases



Decreases, increases



Doesn’t change, increases

Bottom of Form

**\_\_\_\_ is associated with the sampling distribution of a statistic while \_\_\_ is associated with the distribution of the random variable itself.**

(1 mark)

Top of Form



Confidence interval; prediction interval



Standard deviation; sampling error



Variance; sampling error



None of the options



Sampling error; confidence interval

Bottom of Form

**If the expected value of an estimator equals the population parameter it is intended to estimate, the estimator is said to be \_\_\_\_\_\_\_\_.**

(1 mark)

Top of Form



Falsifiable



Reliable



None of the above.



Unbiased



Biased

Bottom of Form