

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

---

(First Page)

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

---

(Subsequent Pages)

1.

The  $z$  value for a 96.6% confidence interval estimate for a population mean  $\mu$  is:

- a. 2.12
- b. 1.82
- c. 2.00
- d. 1.96

2.

A point estimate is defined as:

- a. the average of the sample values.
- b. the average of the population values.
- c. a single value that is the best estimate of an unknown population parameter.
- d. a single value that is the best estimate of an unknown sample statistic.

3.

In developing an interval estimate for a population mean, the population standard deviation  $\sigma$  was assumed to be 10. The interval estimate was  $50.92 \pm 2.14$ . Had  $\sigma$  equaled 20, the interval estimate would be:

- a.  $60.92 \pm 2.14$
- b.  $50.92 \pm 12.14$
- c.  $101.84 \pm 4.28$
- d.  $50.92 \pm 4.28$

4.

A 99% confidence interval estimate of the population mean  $\mu$  can be interpreted to mean:

- a. if all possible sample are taken and confidence interval estimates are developed, 99% of them would include the true population mean somewhere within their interval.
- b. we have 99% confidence that we have selected a sample whose interval does include the population.
- c. we estimate that the population mean falls between the lower and upper confidence limits, and this type of estimator is correct 99% of the time.
- d. all of these choices.

5.

A financial analyst wanted to determine the mean annual return on mutual funds. A random sample of 60 returns shows a mean of 12%. If the population standard deviation is assumed to be 4%, estimate with 95% confidence the mean annual return on all mutual funds.

\_\_\_\_\_ ?

6.

An economist is interested in studying the incomes of consumers in a particular region. The population standard deviation is known to be \$1,000. A random sample of 50 individuals resulted in an average income of \$15,000. What is the width of the 90% confidence interval?

\_\_\_\_\_ ?

7.

As its name suggests, the objective of estimation is to determine the approximate value of:

- a. a population parameter on the basis of a sample statistic.
- b. a sample statistic on the basis of a population parameter.
- c. the sample mean.
- d. the sample variance.

8.

To estimate with 99% confidence the mean of a normal population, whose standard deviation is assumed to be 6 and the maximum allowable sampling error is assumed to be 1.2, requires a random sample of size:

- a. 166
- b. 165
- c. 164
- d. 163

9.

Which of the following statements is false?

- a. The width of a confidence interval estimate of the population mean narrows when the sample size increases.
- b. The width of a confidence interval estimate of the population mean narrows when the value of the sample mean increases.
- c. The width of a confidence interval estimate of the population mean widens when the confidence level increases.
- d. All of these choices.

10.

A normal population has a standard deviation of 15. How large a sample should be drawn to estimate with 95% confidence the population mean to within 1.5?

\_\_\_\_\_ ?

---

PAGE 1 (First Page)

---

PAGE 1 (Subsequent Pages)

---

**ANSWER KEY**

---

**HW #06**

---

1 a

2 c

3 d

4 d

5 (10.988%, 13.012%)

6 \$465.28

7 a

8 a

9 b

10 385

---

ANSWER KEY - Page 1