

Formulas for Test Two

n = sample size

N = population size

\bar{x} = mean

s^2 = variance

s = standard deviation

In all of our examples that involve either the variance or the standard deviation, the distinction between sample and population is not relevant (in terms of $n-1$ or n). Always use whatever formula is provided to you on this sheet.

$$\bar{x} = \frac{\sum x_i}{n}$$

$$S.E.(\bar{x}) = \sqrt{\frac{\sum(x_i - \bar{x})^2}{n(n-1)}}$$

$$C.I. = \pm 1.96[S.E.(\bar{x})]$$

$$s^2 = \frac{\sum(x_i - \bar{x})^2}{n-1}$$

Z-score: $Z = \frac{x_i - \bar{x}}{s}$

Normal Distribution (% of cases):

0 to 0.5 = 19.5%; 0 to 1 = 34.13%; 0 to 1.5 = 43.32%; 0 to 2 = 47.73%; 0 to 2.5 = 49.38%