

# Rounding Rules for Statistics<sup>1</sup>

## **The General Rounding Rule**

In statistics the basic rounding rule is that when computations are done in the calculation, rounding should not be done until the final answer is calculated. When rounding is done in the intermediate steps, it tends to increase the difference between the answer and the exact one. But in the textbook and solutions manual, it is not practical to show long decimals in the intermediate calculations; hence, the values in the examples are carried out to enough places (usually three or four) to obtain the same answer that a calculator would give after rounding on the last step. (page 106)

## **The Rounding Rule for the Mean**

The mean should be rounded to one more decimal place than occurs in the raw data. (page 107)

## **The Rounding Rule for the Standard Deviation**

The final answer should be rounded to one more decimal place than that of the original data. (page 125)

## **The Rounding Rule for Probabilities**

Probabilities should be expressed as reduced fractions or rounded to two or three decimal places. When the probability of an event is an extremely small decimal, it is permissible to round the decimal to the first nonzero digit after the point... When obtaining probabilities from [a table], use the number of decimal places given in the table. If decimals are converted to percentages to express probabilities, move the decimal point two places to the right and add a percent sign. (page 187)

## **The Rounding Rule for the Mean, Variance, and Standard Deviation for a Probability Distribution**

The rounding rule for the mean, variance, and standard deviation for variables of a probability distribution is this: The mean, variance, and standard deviation should be rounded to one more decimal than the outcome  $X$ . When fractions are used, they should be reduced to lowest terms. (page 260)

## **The Rounding Rule for a Confidence Interval for a Mean**

When you are computing a confidence interval for a population mean by using *raw data*, round off to one more decimal place than the number of decimal places in the original data. When you are computing a confidence interval for a population mean by using a sample mean and a standard deviation, round off to the same number of decimal places as given for the mean. (page 359)

## **The Rounding Rule for a Confidence Interval for a Proportion**

Round off to three decimal places. (page 378)

## **The Rounding Rule for the Test Value**

The test value should be rounded off to the same decimal place as the critical value. (Not in book.)

## **The Rounding Rule for the Correlation Coefficient**

Round the value of  $r$  to three decimal places. (page 540)

## **The Rounding Rule for the Intercept and Slope**

Round the values of  $a$  and  $b$  to three decimal places. (page 553)

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<sup>1</sup> From Elementary Statistics 7th edition by Bluman, McGraw-Hill 2009.