Homework #8 – Due November 5
STAT-UB.0103 – Statistics for Business Control and Regression Models

Problem 1

Sincich, 2nd Edition, Ex. 6.72. Accuracy of price scanners at Wal-Mart. The National Institute for Standards and Technology (NIST) mandates that for every 100 items scanned through the electronic checkout scanner at a retail store, no more than two should have an inaccurate price. A study of random items purchased at California Wal-Mart stores found that 8.3% had the wrong price. Assume that the study included 1,000 randomly selected items.

(a) Identify the population parameter of interest in the study.

(b) Set up H_0 and H_a for a test to determine if the true proportion of items scanned at California Wal-Mart stores exceeds the 2% NIST standard.

(c) Find the test statistic and rejection region (at $\alpha - 0.05$) for the test.

(d) Give a practical interpretation of the test.

(e) What conditions are required for the inference, part (d), to be valid? Are these conditions met?

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Problem 2

Sincich, Ex. 8.1.
(Second edition: Ex. 7.1)

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Problem 3

Sincich, Ex. 8.2.
(Second edition: Ex. 7.2)

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Problem 4

Sincich, Ex. 8.3 parts (a), (b), and (e).
(Second edition: Ex. 7.3 parts (a), (b), and (e))

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Problem 5

Sincich, Ex. 8.17.
(Second edition: Ex. 7.15)

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Problem 6

Sincich, Ex. 8.23.
(Second edition: Ex. 7.21.)

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