

Name: _____ Hour: _____ Date: _____

Does labeling menus reduce calories?

According to a Stanford Business article, Americans may eat fewer calories at restaurants if the calories of the food items are labeled on the menu. To investigate this, researchers compared Starbucks receipts from locations where the menus were labeled to receipts from stores where the menus were not labeled. A random sample of 30 receipts from stores with the menus labeled had an average number of calories of 225 calories with a standard deviation of 100 calories. A random sample of 40 receipts from stores without menus labeled showed an average of 265 calories per receipt with a standard deviation of 75 calories. Does this provide convincing evidence that the average calories per receipt at Starbucks with a labeled menu is less than at a Starbucks without labeled menus?

STATE: Parameter:

Statistic:

Hypotheses:

Significance level:

PLAN: Name of procedure:

Check conditions:

DO: Mean:

Standard deviation:

General Formula:

Picture:

Specific Formula:

Work:

Test statistic:

P-value:

CONCLUDE:

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Significance Test for a Difference in Means

Important ideas:

Check Your Understanding

How quickly do synthetic fabrics such as polyester decay in landfills? A researcher buried polyester strips in the soil for different lengths of time, then dug up the strips and measured the force required to break them. Breaking strength is easy to measure and is a good indicator of decay. Lower strength means the fabric has decayed more. For one part of the study, the researcher buried 10 strips of polyester fabric in well-drained soil in the summer. The strips were randomly assigned to two groups: 5 of them were buried for 2 weeks and the other 5 were buried for 16 weeks. Here are the breaking strengths in pounds:

Group 1 (2 weeks)	118	126	126	120	129
Group 2 (16 weeks)	124	98	110	140	110

Do the data give convincing evidence that polyester decays more in 16 weeks than in 2 weeks, on average