

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:

Name: _____ Hour: _____ Date: _____

Significance Test for a Difference in Means

Important ideas:

Check Your Understanding

Can balloons hold more air or more water before bursting? A student purchased a large bag of 12-inch balloons. He randomly selected 10 balloons from the bag and then randomly assigned half of them to be filled with air until bursting and the other half to be filled with water until bursting. He used devices to measure the amount of air and water was dispensed until the balloons burst. Here are the data.

Air (ft ³)	0.52	0.58	0.50	0.55	0.61
Water (ft ³)	0.44	0.41	0.45	0.46	0.38

Do the data give convincing evidence air filled balloons can attain a greater volume than water filled balloons?