

## Pre-Activity Test

*Note:* The purpose of this practice is to refresh your knowledge in graphing data using box-and-whisker plots, bar graphs, and Pareto charts. The computation of mean, trimmed mean, standard deviation, coefficient of variation and five-number summary is also reviewed. Remember to answer in terms of the problem!

1. A food industry group asked 3,368 people to guess the number of calories in each of several common foods. The table below provides an average of their guesses and the correct number of calories.

Food	Guessed Calories	Actual Calories
8 oz. whole milk	196	159
5 oz. spaghetti with tomato sauce	394	163
5 oz. macaroni with cheese	350	269
1 slice wheat bread	117	61
1 slice white bread	136	76
2 oz. candy bar	364	260
1 saltine cracker	74	12
1 medium-size apple	107	80
1 medium-size potato	160	88
1 cream-filled snack cake	419	160

- A. Make a clustered bar graph using the data in the table. Was the estimation over or under?

B. Use a Pareto chart to determine the two foods with the highest calories content.

2. Three groups of *AP Statistics* students were asked how many minutes they studied on a typical weeknight. The responses of random samples of 30 female and 30 male students are in the table.

Girls					Boys				
180	120	180	360	240	90	120	30	90	200
120	180	120	240	170	90	45	30	120	75
150	120	180	180	150	150	120	60	240	300
200	150	180	150	180	240	60	120	60	30
120	60	120	180	180	30	230	120	95	150
90	240	180	115	120	0	200	120	120	180

For each of the above data sets, compute:

- A. The sample mean
- B. The standard deviation, and the coefficient of variation
- C. The five-number summary
- D. The 10% trimmed mean

Using modified box-and-whisker plots, compare the above data. Include the mean values on your graphs. Draw conclusions about the study habits of the *AP Statistics* students.