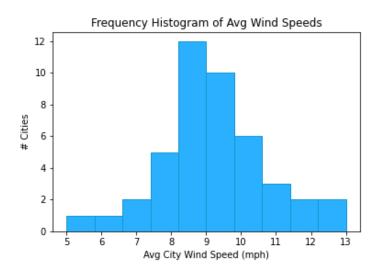# Wackerly Section 1.2 Problems

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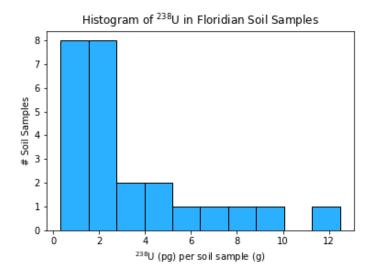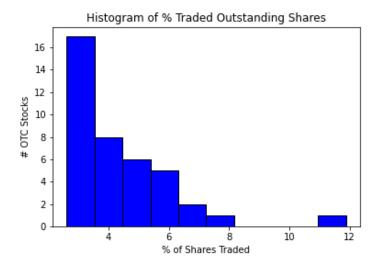
Problem 1.2

(a).

(b). Yes, the high wind totals are consistent with the fact that Mt. Washington, New Hampshire is on a mountain.

(c). 24.44% of cities are windier than Chicago.

(d). No, since 24.44% of other cities in our sample are windier than Chicago. Therefore Chicago is not unusually windy when you consider how unusually windy other supposed outliers are such as Mt. Washington, NH. Chicago is windier than most cities, but is not unusually windy compared to cities in our sample.

Problem 1.3

Histogram of ^{238}U in Floridian Soil Samples

Problem 1.4

Histogram of % Traded Outstanding Shares

(a).

(b). 0.4500 of top 40 stocks traded more than 4% of outstanding shares.

(c). The likelihood that a randomly selected stock from our sample traded more than 5% of outstanding shares is 0.7250.

Problem 1.5

(a). The categories with the largest proportion of students is (-2.45, 2.65) and (2.65, 2.85).

(b). In each category, there are 7/30 of total sampled students.

(c). $3 + 3 + 3 + 7 = 16$.
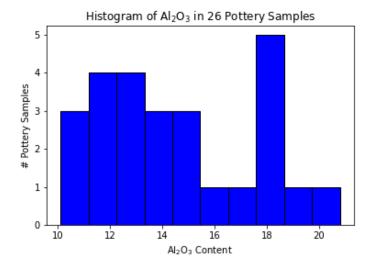
16/30 students had a GPA less than 2.65.

Problem 1.6

(a). The model category is the '2 quarts of milk' category.

(b). 9/25, or 0.36 of the 25 families purchased more than 2 quarts of milk.

(c). 23/25, or 0.92 of the 25 families purchased more than 0 and fewer than 5 quarts of milk.

Problem 1.7

(a). A curve with two peaks; the graph is bimodal.

(b). The two peaks are unusual compared to previous data we've analyzed.

(c). The intervals are too small, failing to capture the trend of the data.

Notice how the two peaks of the histogram are close to each other on the x-axis. This suggests that the two peaks should actually be represented by one peak. To fix this issue, we should increase the size of the categories.

Problem 1.8

Histogram of Al_2O_3 in 26 Pottery Samples

(a).

(b). The histogram is bimodal, but unlike in Problem 1.7, this does not appear to be an issue of category size. The data suggests that there are two common Al_2O_3 values, not one. This is likely due to how Island Thomas and Ashley Rails pottery have larger Al_2O_3 values than Llanederyn and Calcidot pottery.