Summary Measures, Exercise 6.1

The calculated summary measures for Diet B in 6.1 were:

Sample Size (n): 50

Sample Mean (x): 3.812 kg

Sample Standard Deviation (s): 2.668 kg

Interpretation

When comparing the two diets, Diet A appears to be more effective. The average weight loss for Diet A was 5.341 kg, which is higher than the 3.812 kg average for Diet B. Additionally, the standard deviation for Diet A (2.536 kg) was slightly lower than for Diet B (2.668 kg), suggesting that the weight loss results for Diet A were also more consistent.

Summary Measures, Exercise 6.2

The calculated summary measures for Diet B in 6.2 were:

Sample Median (M): 3.950 kg

First Quartile (Q1): 2.100 kg

Third Quartile (Q3): 5.400 kg

Sample Interquartile Range (IQR): 3.300 kg

Interpretation

The median weight loss for Diet B was considerably lower than the median weight loss for Diet A, which was 5.642 kg. This difference in median suggests that Diet A was more effective for the typical person in the study. The interquartile range (IQR), which measures the spread of the middle 50% of the data, was very similar to the IQR for Diet A, which was 3.285 kg. This indicates that the variability in weight loss among the participants of both diets was nearly identical. In conclusion, both diets showed similar consistency in results for the typical participant but Diet A was more effective for the typical participant.

Summary Measures, Exercise 6.3

The calculated frequencies and percentage frequencies for brand preference in Area 2 were:

Frequencies for Area 2:

Brand A: 25

Brand B: 24

Other: 21

Total: 70

Percentage Frequencies for Area 2:

Brand A: 35.7%

Brand B: 34.3%

Other: 30.0%

Total: 100.0%

Interpretation

  For Area 1, there was a strong preference for "Other" brands (60.0%), with Brands A (15.7%) and B (24.3%) being less popular. This suggests that the market in Area 1 is fragmented or that a different, unlisted brand is the local favorite. On the other hand, Area 2 shows a much more evenly distributed preference among the choices. Brands A (35.7%) and B (34.3%) are significantly more popular than in Area 1 and are preferred close to equally. The "Other" category (30.0%) which encompasses all other choices is the least preferred in this area. In summary, brand loyalty is more concentrated on Brands A and B in Area 2, while Area 1 consumers show a wider range of preferences, with a majority favoring brands other than A or B.