Excel 8.1B

For the samples of taking Diet B, the answer is tabulated below.

n	50
Mean	3.710
SD	2.769

Interpretation of the results

1. The sample size between Diet A and B are the same, they both have 50 samples. So, it empowers us to compare the average and standard deviation correctly.

2. The average weight loss between Diet A and B, the average weight loss of Diet A is 5.341 kg. On the other hand, the average weight loss of Diet B is 3.710 kg. As a result, we can conclude that taking Diet A can lose weight faster than taking Diet B.

3. The standard deviation of taking Diet A is 2.536 kg. On the other hand, the standard deviation of diet B is 2.769 kg. taking Diet B is slightly higher than taking Diet A. taking Diet A has less dispersion than taking Diet B. As a result, we can conclude that taking Diet A is more effective.

Excel 8.2B

For the samples of taking Diet B, the answer is tabulated below.

n	50
Mean	3.710
SD	2.769
Median	3.745
Q1	1.953
Q3	5.404
IQR	3.451

Interpretation of the results

1. The sample median weight loss of taking Diet B is 3.745 kg. On the other hand, the median weight loss of taking Diet A is 5.642 kg. It is clear that taking Diet B is more effective than taking Diet A because it has the lowest median weight loss between them.

2. The sample interquartile range of the weight loss for Diet B is IQR = 3.451 kg. On the other hand, the sample interquartile range of the weight loss for Diet A is IQR = 3.285 kg. We can observe that the people taking Diet A have a larger number of positive weight loss than taking Diet B.

Excel 8.3D

For the samples of living in Area2, the answer is tabulated below.

Frequencies

A	19
B	30
Other	41
Total	90

Percentages

A	21.1
B	33.3
Other	45.6
Total	100.0

Interpretation of the results

1. The people who live in Area 2, have more population than Area1. So, comparing its frequencies between them will skew the result. We should compare them with percentages instead.

2. From the percentages compared with two Areas, we can see that most people preferred “Other“ (Area 1: 60.0%, Area 2: 45.6%) brands with neither A or B in both Areas. In

addition, brand A (Area 1: 15.7%, Area 2: 21.1%) and brand B (Area 1: 24.3%, Area 2: 33.3%) are preferred in Area 2.

Excel 8.4G

For two samples of data, I calculated the average filtration value, the standard deviation value, and the interquartile range for two agents respectively. The results of calculation are listed below.

	Agent 1	**Agent 2**
Mean	8.25	8.683
SD	1.029	1.038
Q1	7.4	8.075
Q3	9.25	9.45
IQR	1.85	1.375

Interpretation of the results

1. The sample median of impurities present after filtration for Agent 1 is 8.25 parts per 1000. On the other hand, the sample median of impurities present after filtration for Agent 2 is 8.683 parts per 1000. It is clear that Agent 1 is more effective than Agent 2 because Agent 1 has a lower average of impurities present after filtration value than Agent 2.

2. The sample interquartile range of impurities present after filtration for Agent 1 is 1.85 parts per 1000. On the other hand, the sample interquartile range of impurities present after filtration for Agent 2 is 1.375 parts per 1000. We can observe that Agent 1 can remove more impurities than Agent 2.

Excel 8.6C

For comparing the annual income between male and females, I calculated the average annual income, the standard deviation annual income, and the interquartile range annual income. The results of calculation are listed below.

	M	**F**
Mean	52.9	44.2
SD	15.268	13.79
Q1	40.75	33.325
Q3	59.2	52.725
IQR	18.45	19.4

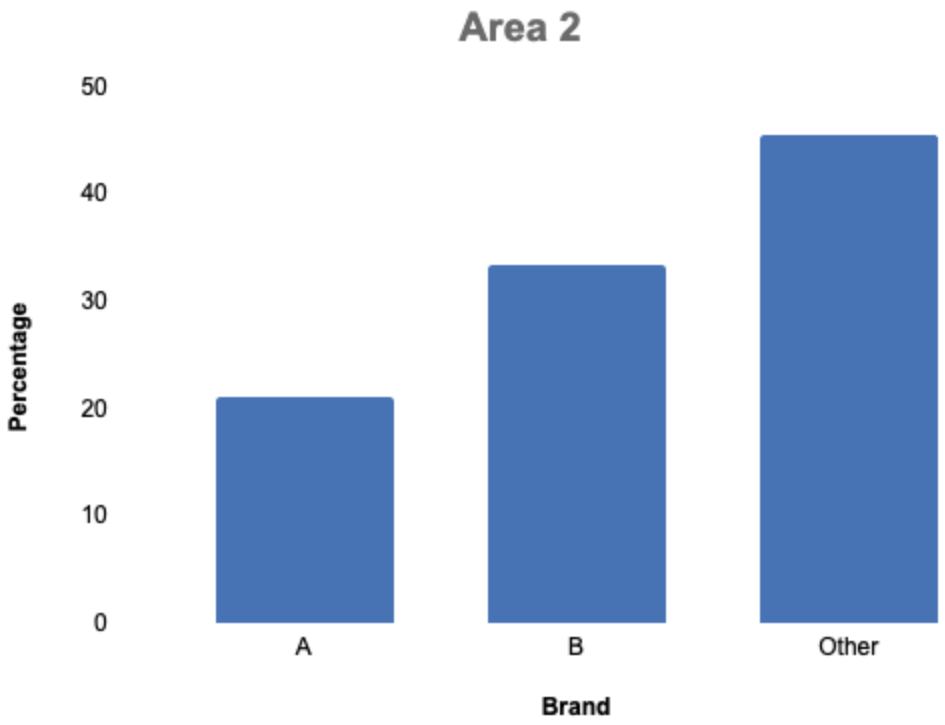
Interpretation of the results

1. The average annual income for male is 52.9. On the other hand, the average annual income for females is 44.2. We can see that men have higher income than females.

2. The sample interquartile range of annual income for male is 18.45. On the other hand, the sample interquartile range of annual income for females is 19.4. We can observe that men earn more than females because their value is lower than females'.

Excel 9.1D

The bar chart of people who live in Area 2 in percentages is displayed below.



Interpretation of the results

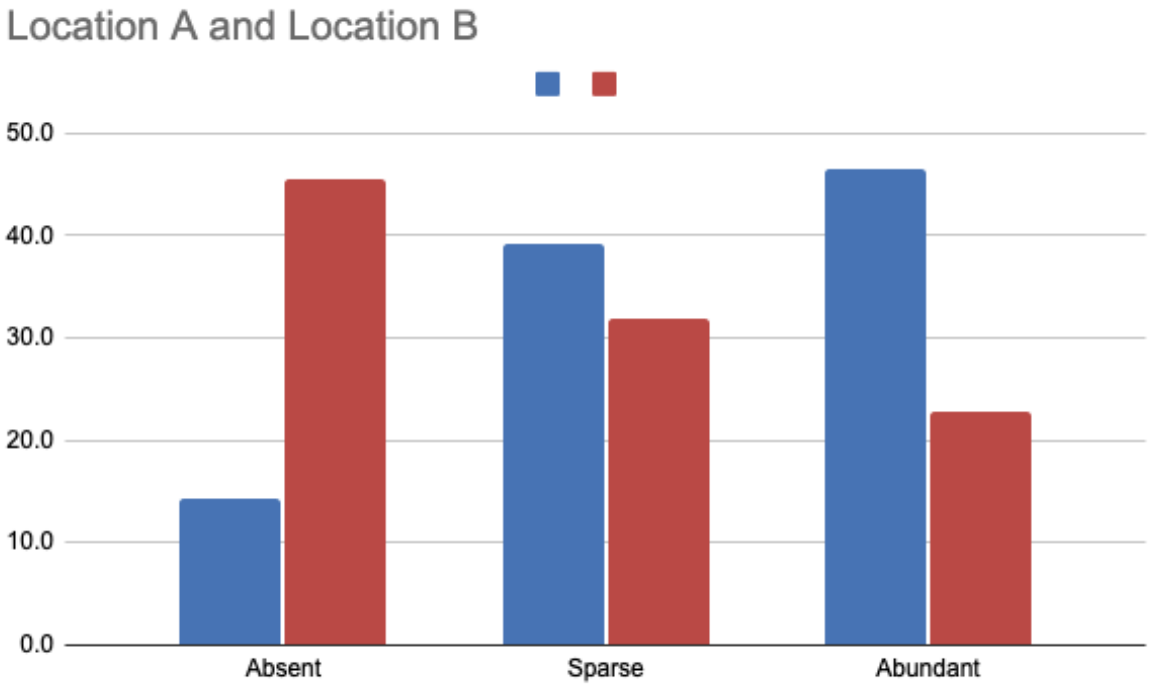
1. Compared between two Areas, we can see that a bigger amount of people in Area 2 prefer brand A and brand B than people in Area 1.

2. People in Area 1 have more people who prefer “Other” brands than people in Area 2. Also, brand A and brand B are more preferable in Area 2.

3. The chart of Area B is distributed evenly than the chart of Area 1. In the chart of Area 1, the “Other” option has a significant portion than brand A and brand B.

Excel 9.2E

I created a bar chart to show the comparison between location A and location B. The bar chart is displayed below.



Interpretation of the results

1. A fewer absent frequencies in Location A than in Location B. We can see that most of the participants in Location B are absent.

2. A relatively close sparse in both locations.

3. Nearly half of participants in Location A prefer abundant. On the other hand, there are few participants who prefer abundant.

Excel 9.3B

For the samples of taking Diet B, the answer is tabulated below.

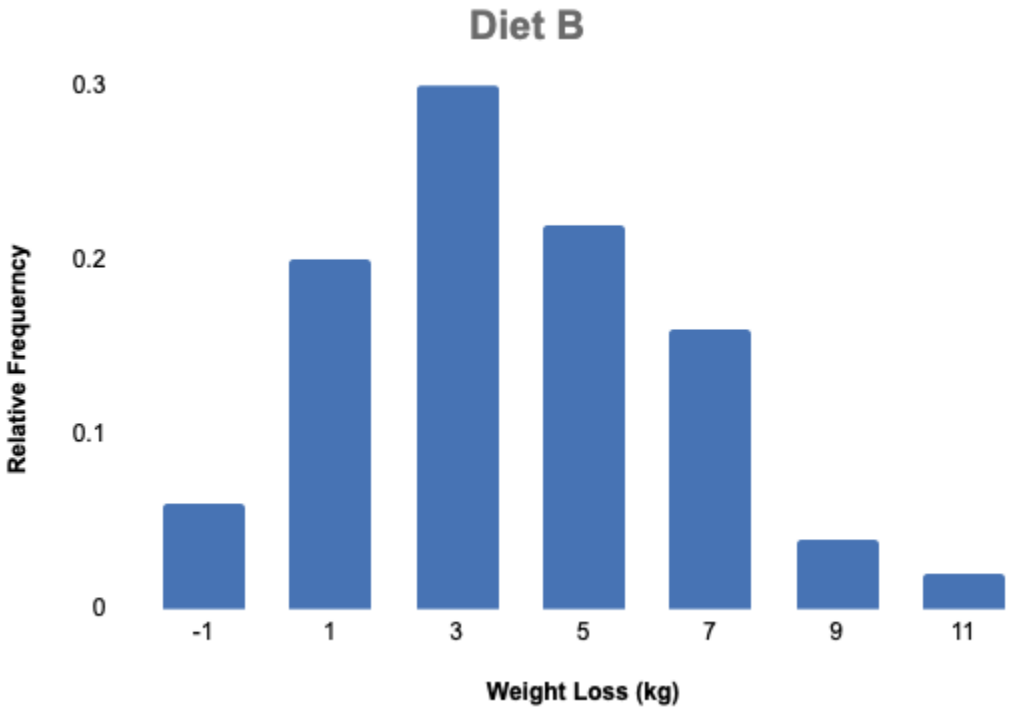
n	50

Mean	3.710
SD	2.769
Min	-4.148
Max	10.539
Range	14.687

UCB	**Frequency**
0	3
2	10
4	15
6	11
8	8
10	2
12	1
Total	50

Class Mark	**Relative Frequency**
-1	0.06
1	0.2
3	0.3
5	0.22
7	0.16
9	0.04
11	0.02
Total	1

I also created a bar chart to present the relative frequency versus the weight loss (kg). The bar chart is displayed below.



Interpretation of the results

1. Compared with both bar chats, we can see that Diet A has better results because participants who underwent Diet B had higher potential to gain weight.

2. The weight loss distribution of the bar chart of taking Diet B which skewed positively and close to the mean is less than people who took Diet A. So, Diet A is more effective.