Worksheet 3 – Chapter 2a

The following data reflect the number of times a sample of business executives flew on business during the previous month: **Show all work.** Give answers to 2 decimal places.

Х	(X – mean)	$(X - mean)^2$
4	4 - 5.8333 = -1.8333	3.3610
6	6 - 5.8333 = 0.1667	0.0278
9	9 - 5.8333 = 3.1667	10.0280
4	4 - 5.8333 = -1.8333	3.3610
5	5 - 5.8333 = -0.8333	0.6944
7	7 - 5.8333 = 1.1667	1.3612
35		18.8334

a. By hand – compute the **mean** for these data.

$$\overline{x} = \frac{\sum x}{n} = \frac{4+6+9+4+5+7}{6} = \frac{35}{6} = 5.833$$

b. By hand – compute the **median** for these data.

4, 4, 5, 6, 7, 9, - order

Median = Average of 5 and 6 = 5.5

c. By hand – compute the **range** for these data.

Range = Largest Value - Smallest Value = 9 - 4 = 5

d. By hand – compute the **variance** for these data.

$$\sigma^{2} = \frac{\sum (x - \overline{x})^{2}}{n - 1} = \frac{18.8334}{5} = 3.77$$

e. By hand – compute the **standard deviation** for these data.

$$\sigma = \sqrt{\frac{\sum (x - \overline{x})^2}{n - 1}} = \sqrt{\frac{18.8334}{5}} = \sqrt{3.77} = 1.94$$

f. By hand – compute the quartiles (Q1, Q2, and Q3) for these data.

g. By hand – compute the **IQR** for these data.

IQR = Q3 - Q1 = 7 - 4 = 3

h. By hand – create a **box-plot** for these data. Label axis.



i. Using DDXL:Summaries of One Variable find the values for part (a) – (g). Attach Summary from DDXL.

Count	6
Mean	5.833
Median	5.5
Std Dev	1.941
Variance	3.767
Range	5
Min	4
Max	9
IQR	3
25th \$	4
75th \$	7

j. Using DDXL (page 45-46 in Excel Manual) create a box plot for these data. Attach Box-plot from DDXL.

