1. Using the following data answer the questions below:

x_i	y_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$	$(y_i - \bar{y})$	$(y_i - \bar{y})^2$	$(x_i - \bar{x})(y_i - \bar{y})$
1	5	-3	9	-1.85714	3.4489796	5.571428571
3	7	-1	1	0.14286	0.0204082	-0.142857143
4	6	0	0	-0.85714	0.7346939	0
5	8	1	1	1.14286	1.3061224	1.142857143
7	9	3	9	2.14286	4.5918367	6.428571429
3	6	-1	1	-0.85714	0.7346939	0.857142857
5	7	1	1	0.14286	0.0204082	0.142857143
28	48	0	22	2.7E-15	10.857143	14

a. X and y variances
b. Correlation between x and y. From the result obtained can we tell if there is a lineal relationship between x and y? Is this relation positive or negative?
c. Find the regression line that models this relation, and estimate the value of y when x=6
d. In next figure relate each boxplot with the corresponding histogram.