MATH1013
Tutorial 3

1. The number of passengers in 20 automobiles taxi on a highway is

2	2	4	3	1	1	5	0	1	3
3	1	4	0	1	1	3	0	1	2

Based on the frequency table constructed from Tutorial 2,

a) Find its range, interquartile range and standard deviation.
b) Compute the coefficient of skewness, what can you conclude on the distribution of the number of passengers in this sample?

2. The value of investments, by country, held by a fund at the end of October 1997 were as follows.

Country	Market value (millions of dollar)
Argentina	123
France	87
Germany	174
Italy	97
Japan	59
Netherlands	1215
Switzerland	68
United Kingdom	1710
United States	15613

Find the range, interquartile range and the standard deviation of the data.

3. A store manager would like to know the number of customers who make a purchase at a certain counter per day. He randomly chooses a sample of 35 days and recorded the numbers.

Numbers of Customers	Frequency, f
21 – 23	6
24 – 26	7
27 – 29	7
30 – 32	10
33 – 35	5
Total	35

Based on the frequency distribution table, find the standard deviation and quartile deviation of the data.

4. On four Saturdays, a person jogged for 46, 50, 52 and 60 minutes.
   a) Find the mean, the range and the standard deviation of these four sample values.
   b) Subtract 50 minutes from each of the times, recalculate the mean, the range and the standard deviation, and compare the results with those obtained in part (a).
   c) Divide each of the original values by 2, recalculate the mean, the range and the standard deviation, and compare the results with those obtained in part (a).

5. The following data are the yields (in pounds) of hops.

3.9	3.4	5.1	2.7	4.4	7.0	5.6	2.6	4.8	5.6
7.0	4.8	5.0	6.8	4.8	3.7	5.8	3.6	4.0	5.6

   a) Find Q_1 and Q_3 for the lengths of the yields.
   b) Find the semi-interquartile range.

6. On a final examination in an English course, the mean grade is 79.9, the median grade is 81.4 and the standard deviation is 3.1.
   a) Calculate the Pearson's coefficient of skewness.
   b) Discuss the shape of the distribution of these grades.