1. The following table shows the weekly sales of television sets in a department store in one year.

Number of sets sold per week	5 – 13	14 – 22	23 – 31	32 – 40	41 – 49
Number of weeks	1	19	23	7	2

Draw a (i) histogram
(ii) frequency polygon
to illustrate this information.

2. On a particular day, the length of stay of each car at a city park was recorded. The length of stay was measured to the nearest minutes. The results were as shown in the following table.

Length of stay (min)	6–25	26–60	61–80	81–105	106–115	116–150	151–200
Frequency	62	70	88	125	56	105	30

Taking 20 minutes as 'standard', draw a histogram to illustrate this information.

3. Twelve members of a class of 50 children, each estimate the height of the top of a church tower. Their estimates, in metres, are

47, 52, 52, 54, 52, 50, 51, 50, 48, 53, 54, 49

Calculate the mean, median, mode, range, variance and standard deviation of these estimates.

4. A random sample of 1000 surnames is drawn from a local telephone directory. The distribution of the lengths of the names is as shown in table below.

Number of letters in surname	3	4	5	6	7	8	9	10
Frequency	13	102	186	237	215	119	83	45

Calculate the sample mean and sample standard deviation. Obtain the upper quartile.
6.453 1.6329 7

5. The following table shows the duration of a sample of 40 telephone calls from an office via the office switchboard.

Duration in minutes	0 – <1	1 – <2	2 – <3	3 –< 5	5 – <10	10 – <15
Number of calls	6	8	15	5	4	2

a) Draw the histogram. 2.4 1.5 3.4
b) Calculate the mean, median, lower and upper quartiles.
c) Calculate the variance and standard deviation.

6. The raw data displayed below are the electric and gas utility charges during the month of July 2010 for a random sample of 50 three-bedroom apartments.

Raw data on utility charges (RM)

96	171	202	178	147	102	153	197	127	82
157	185	90	116	172	111	148	213	130	165
141	149	206	175	123	128	144	168	109	167
95	163	150	154	130	143	187	166	139	149
108	119	183	151	114	135	191	137	129	158

a) Construct a frequency distribution having seven class intervals with the following class boundaries: RM80 but less than RM100, RM100 but less than RM120 and so on. (continuous data classification)

b) Construct the cumulative frequency distribution.

c) Construct the cumulative percentage distribution.

d) Plot the cumulative percentage polygon.

e) Approximate

i) the median ii) Q_1 and Q_3 iii) the inter-quartile range

148 123 173 50

7. The number of items rejected daily by a manufacturer because of defects was recorded for the last 25 days. The results are as follows: (discrete data classification)

21	8	17	22	19	18	19	14	17	11	6	21	25
19	9	12	16	16	10	29	24	6	21	20	25	

a) Construct a frequency distribution for these data. Use five class intervals, with the lower limit of the first class being 5 items.

b) Construct a relative frequency histogram for these data.

c) Construct a cumulative frequency distribution.