

Chapter 1: Overview and Descriptive Statistics

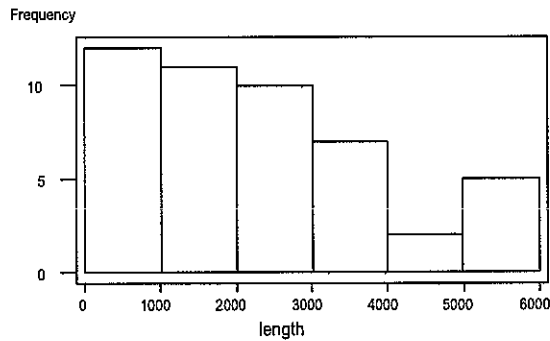
20.

- a. The following stem-and-leaf display was constructed:

0	123334555599	
1	00122234688	stem: thousands
2	1112344477	leaf: hundreds
3	0113338	
4	37	
5	23778	

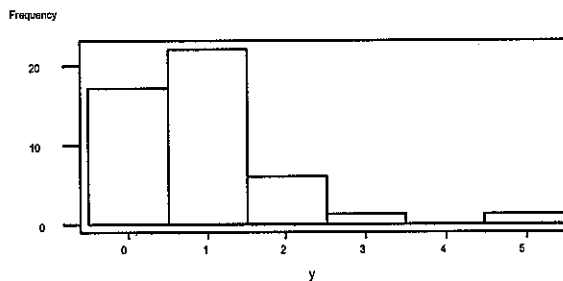
A typical data value is somewhere in the low 2000's. The display is almost unimodal (the stem at 5 would be considered a mode, the stem at 0 another) and has a positive skew.

- b. A histogram of this data, using classes boundaries of 0, 1000, 2000, ..., 6000 is shown below. The proportion of subdivisions with total length less than 2000 is $(12+11)/47 = .489$, or 48.9%. Between 2000 and 4000, the proportion is $(10+7)/47 = .362$, or 36.2%. The histogram shows the same general shape as depicted by the stem-and-leaf in part (a).



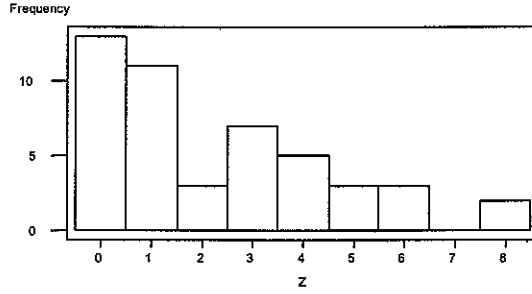
21.

- a. A histogram of the y data appears below. From this histogram, the number of subdivisions having no cul-de-sacs (i.e., $y = 0$) is $17/47 = .362$, or 36.2%. The proportion having at least one cul-de-sac ($y \geq 1$) is $(47-17)/47 = 30/47 = .638$, or 63.8%. Note that subtracting the number of cul-de-sacs with $y = 0$ from the total, 47, is an easy way to find the number of subdivisions with $y \geq 1$.



21.

b. A histogram of the z data appears below. From this histogram, the number of subdivisions with at most 5 intersections (i.e., $z \leq 5$) is $42/47 = .894$, or 89.4%. The proportion having fewer than 5 intersections ($z < 5$) is $39/47 = .830$, or 83.0%.



29.

Complaint	Frequency	Relative Frequency
B	7	0.1167
C	3	0.0500
F	9	0.1500
J	10	0.1667
M	4	0.0667
N	6	0.1000
O	21	0.3500
	60	1.0000

