0166   王海羊

Chapte 1
section 1.2
11.

6L	034	stem : tens
6H	667899	leaf : ones
7L	00122244	
7H		
8L	001111122344	
8H	5557899	
9L	03	
9H	58	

No scores in the high 70's.

14. a.

2	23
3	2344567789
4	0135688 4
5	000 0111 4455 6667 89
6	0000 12222 33 4445 66677 8 9999
7	000 1223 34 5 5555 668
8	02233 448
9	01 2233 33 5666788
10	2344455698
11	2335999
12	37
13	8
14	36
15	0035
16	
17	
18	9

Stem: ones
leaf: decimals

b. The typical flow rate is 7.0

c. The data is somewhat spread out

d. The data is skewed to the right

e. The value 18.9 is an outlier

20 a.

0	1 2 3 3 3 4 5 5 5 5 9 9
1	0 0 1 2 2 2 3 4 6 8 8
2	1 1 1 2 3 4 4 4 7 7
3	0 1 1 3 3 3 8
4	3 7
5	2 3 7 7 8

The typical value is around the low 2000. The display is bimodal.

b.
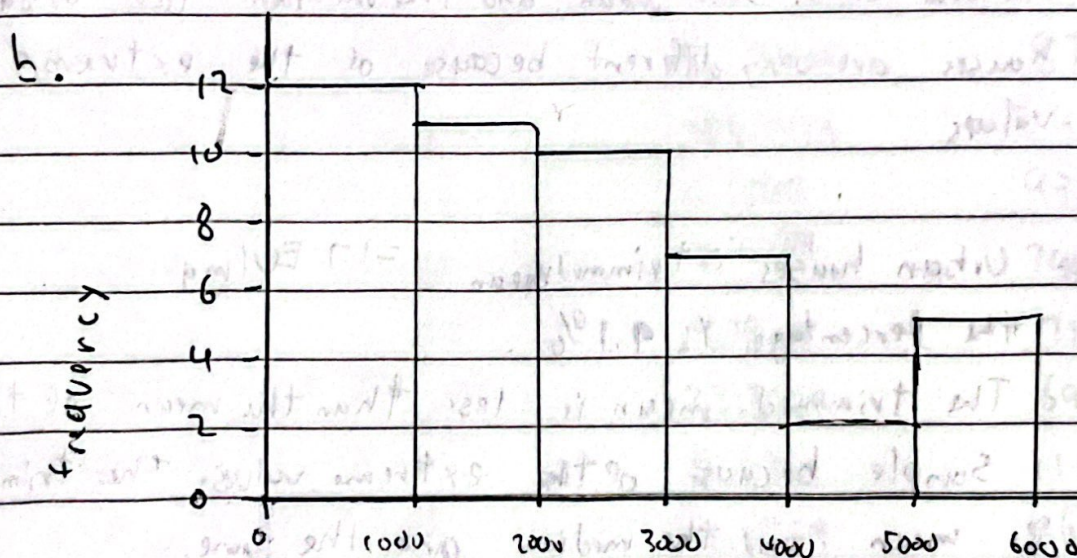
total length of streets

48.4% of subdivisions have total length less than 2000. Between 2000 and 4000 the proportion is 56.7%. The histogram is skewed to the right.

Section 1.3

34, a. For urban homes $\bar{x} = 21.55$ EU/mg, for farm houses, $\bar{x} = 8.56$ EU/mg. The average concentration in urban homes is more than double the average the concentration in farm house

b. For urban homes, $\tilde{x} = 17.00$ EU/mg, for farm houses $\tilde{x} = 8.90$ EU/mg. The median concentration in urban homes is almost double the median concentration in farm homes. The mean and the median for urban houses are very different because of the extreme values

c. Urban houses: trimmed mean $= 17$ EU/mg the percentage is 9.1%.
The trimmed mean is less than the mean of the sample because of the extreme values. The trimmed mean and the median are the same.
Farm houses: Trimmed mean $= 8.24$ EU/mg
The trimmed percentage is 6.7%
The trimmed mean is very close to the mean and median.

40. Sample median : 92

    25% trimmed mean = 95.38

    10% trimmed mean = 102.23

    Sample mean = 114.26 ✓

Section 1.4

44. a. range = 49.3 - 23.5 = 25.8

b.

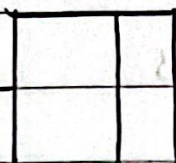| x_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$	x_i^2
29.5	-1.53	2.3404	870.25
49.3	18.27	333.7929	2430.49
30.6	-0.43	0.1849	936.36
28.2	-2.83	8.0089	795.24
28.0	-3.03	9.1809	784.00
26.3	-4.73	22.3729	691.69
33.9	2.87	8.2369	1149.21
29.4	-1.63	2.6569	864.36
23.5	-7.53	56.7009	552.25
31.6	0.57	0.3249	998.56
Sum 310.3	0	443.901	10072.41

$\bar{x} = 31.03 \qquad s^2 = 49.3112$

c. $s = \sqrt{49.3112} = 7.0222$

d. $s^2 = \dfrac{\sum x^2 - (\sum x)^2/n}{n-1} = 49.3112$ ✓

56.

15 16 17 18 19 20 21 22 23 24

The mean is 19.3%, the median is 19.2%.

upper fourth $= 19.76\%$

lower fourth $= 18.34$

There were two outliers , 23.25% and 23.78%

A+