

3R HW: Chapter 3 Review HW

#'s 3.54, 3.57, 3.59, 3.62, 3.63

HOUSING UNITS SOLD BY ZIPCODE

3.54

```

0 | 675890050
1 | 8615216706312284318087877
2 | 56907869061971
3 | 75500015051
4 | 5678230/
5 |
6 | 71
7 | 0
    
```

stem: tens digit
leaf: ones digit

← SHOULD ORDER HIGH → LOW
TO BE ABLE TO LOCATE
MEDIAN

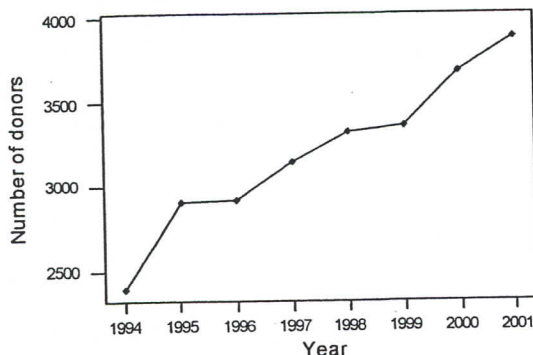
(anarrow spread)

The data values are concentrated between 0 to 40 with a few larger values. Overall, the plot appears to be skewed to the right.

- The typical or center value is about 18.

3.57 a

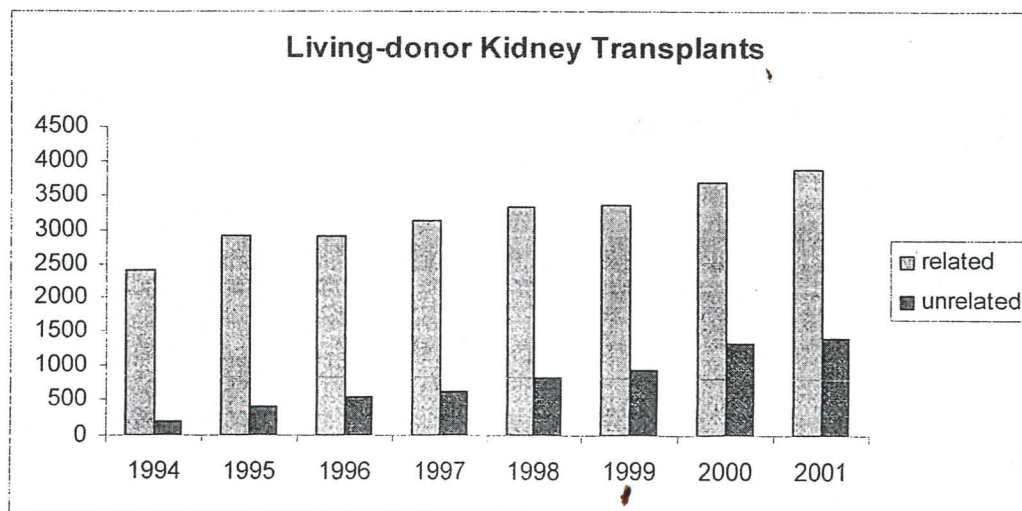
Living-donor Transplants by Relative



→ The number of transplants from a living relative has been increasing steadily from 1994 to 2001.

b

Living-donor Kidney Transplants



There are many more related donors than unrelated donors used for kidney transplants. However the use of non-related donors is rising at a faster rate than that of non-related donors.

3.59

- a The two histograms do give different impressions about the distribution of values. For the first histogram, it appears that more frozen meals have sodium content around 800mg. However, the second histogram suggests that sodium content is fairly uniform from 300mg to 900mg and then drops off above 900mg.
- b Using the first histogram, the proportion of observations that are less than 800 is approximately

$$\frac{6+7+\frac{10}{2}}{(6+7+10+4)} = \frac{18}{27} = .6667.$$

Using the second histogram, the proportion of observations that are less than 800 is approximately

$$\frac{6+5+5+\left(\frac{800-750}{150}\right)(6)}{(6+5+5+6+4+1)} = \frac{16+2}{27} = \frac{18}{27} = .6667.$$

The actual proportion is $\frac{18}{27} = \frac{2}{3} = .6667$.

3.62

SHAMPOO COST PER OUNCE (in cents)STEM LEAFNORMALFINE

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

STEM: TENS
LEAF: ONES

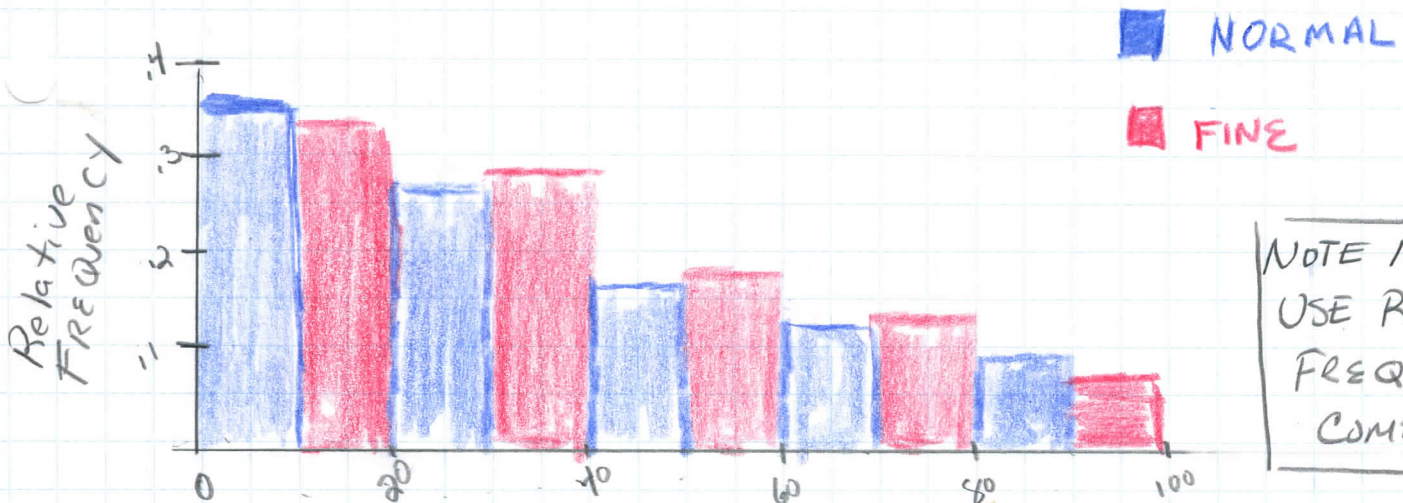
N = 31

8 - 87

N = 29

8 - 87- NORMAL - - FINE -

CLASS INTERVAL	FREQ	REL FREQ	FREQ	REL FREQ
0 - < 20	11	.355	10	.345
20 - < 40	8	.258	8	.276
40 - < 60	5	.161	5	.172
60 - < 80	4	.129	4	.138
80 - < 100	3	.097	2	.069
Total	31	1.000	29	1.000



NOTE MUST
USE REL.
FREQ TO
COMPARE

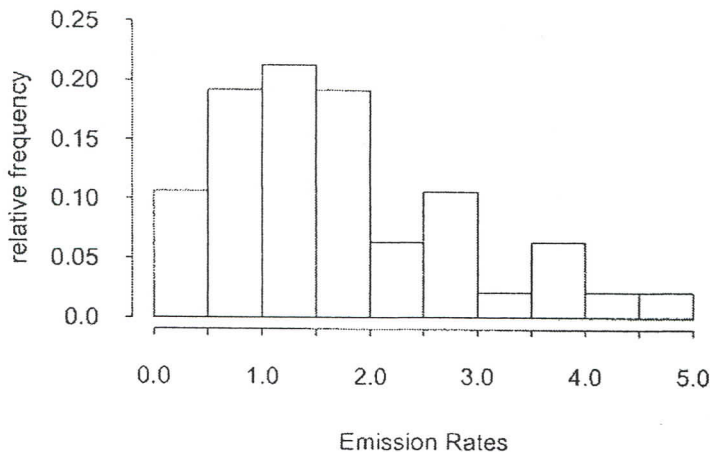
COST OF SHAMPOO (¢'S PER OUNCE)FINDINGS

- The shampoos for the 2 types (Normal and fine) have very similar distributions
- They both range from 8¢ to 87¢'s.
- Typical cost for both type is around 10¢ - 30¢
- They both have medians of 20¢'s.

EMISSIONS RATES

Class Intervals	Frequency	Rel. Freq.	Cumulative Rel. Freq.
0 -< 0.5	5	.1064	.1064
.5 -< 1.0	9	.1915	.2979
1.0 -< 1.5	10	.2128	.5107
1.5 -< 2.0	9	.1915	.7022
2.0 -< 2.5	3	.0638	.7660
2.5 -< 3.0	5	.1064	.8724
3.0 -< 3.5	1	.0213	.8937
3.5 -< 4.0	3	.0638	.9575
4.0 -< 4.5	1	.0213	.9788
4.5 -< 5.0	1	.0213	1.0001
n = 47		1.0001	

b



The histogram is positively skewed.

d

- i About .2979 or 29.79% of the states had SO₂ emission below 1.0.
- ii About $.7022 - .2979 = .4043$ or 40.43% of the states had SO₂ emission between 1.0 and 2.0.
- iii About $1 - .7022 = .2978$ or 29.78% of the states has SO₂ emission which exceeded 2.0.