

| Stem | leaf                  | Stem: tens digit, "L" represents the ones digit in range [0, 4], and "H" represents the ones digit in range [5, 9] |
|------|-----------------------|--|
| 6L   | 4 3 0                 |  |
| 6H   | 7 6 9 6 8 9           |  |
| 7L   | 2 0 1 2 0 2 4 4       |  |
| 7H   |                       | leaf: the ones digit   |
| 8L   | 0 1 1 2 1 1 4 0 3 2 4 |  |
| 8H   | 9 9 5 5 5 7 8         |  |
| 9L   | 0                     |  |
| 9H   | 3 5 8                 |  |

Feature: The data is mainly concentrated in stem 7L, 8L, 8H.

| 14.a. Stem | leaf                                      | Stem: tens digit leaf: the number after dot |
|------------|---|---|
| 2          | 2 3                                       |   |
| 3          | 2 3 4 4 5 6 7 7 8 9                       |   |
| 4          | 0 1 3 5 6 8 8 9                           |   |
| 5          | 0 0 0 0 1 1 1 4 4 5 5 6 6 6 7 8 9         |   |
| 6          | 0 0 0 0 1 2 2 2 2 3 3 4 4 4 5 6 6 6 7 7 8 |   |
| 7          | 0 0 0 1 2 2 3 3 4 5 5 5 5 5 6 6 8         |   |
| 8          | 0 2 2 3 3 4 4 8                           |   |
| 9          | 0 1 2 3 3 3 3 5 6 6 6 7 8 8               |   |
| 10         | 2 3 4 4 4 5 6 8 8                         |   |
| 11         | 2 3 3 5 9 9 9                             |   |
| 12         | 3 7                                       |   |
| 13         | 8   |   |
| 14         | 3 6                                       |   |
| 15         | 0 0 3 5                                   |   |
| 18         | 9   |   |

b. From 6.0 - 6.9.

d. Positively skewed.

c. spread out.

e. 18.9.

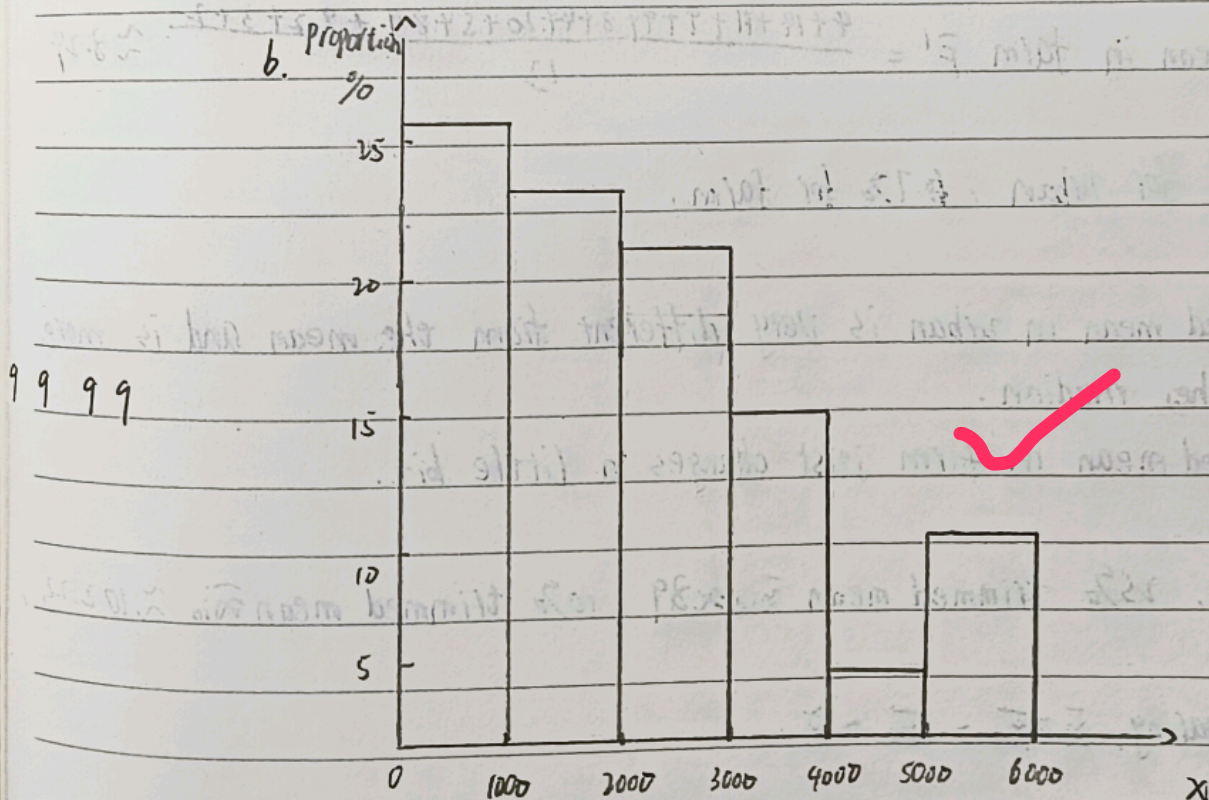


20. a.

| Stem | Leaf                    |
|------|-------------------------|
| 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               |

Features: The data is mainly concentrated below 3000.

It's positively skewed and bimodal.



The proportion of having total length less than 2000 is 48.9%.

The proportion between 2000 and 4000 is 36.2%.

positively skewed and bimodal.



$$\frac{5+11+3+4+5+80+18+35+17+23}{11} \approx 21.55$$

$$\bar{F} = \frac{4+14+11+9+9+8+4+20+5+8.9+4+9.2+3+2+23}{15} = 8.56$$

The result is  $\bar{U} > \bar{F}$ .

b.  $\tilde{U} = 17$ ,  $\tilde{F} = 8.9$ , the result is  $\tilde{U} > \tilde{F}$ , because there is an extremely large value — 80.

c. Trimmed mean in urban  $\bar{U}' = \frac{6+5+11+3+5+18+35+17+23}{9} = 17$

Trimmed mean in farm  $\bar{F}' = \frac{4+14+11+9+9+8+4+20+5+8.9+9.2+3+2}{13} \approx 8.24$

It's 9.1% for urban, 6.7% for farm.

The trimmed mean in urban is very different from the mean and is more close to its median.

The trimmed mean in farm just changes a little bit.

40.  $\tilde{x} = 92$ , 25% trimmed mean  $\bar{x}_{.25} \approx 95$ , 10% trimmed mean  $\bar{x}_{.10} \approx 102.23$ ,  $\bar{x} \approx 119$

After comparing,  $\bar{x} > \bar{x}_{.10} > \bar{x}_{.25} > \tilde{x}$ .

51.4

44. a. range  $r = 49.3 - 23.5 = 25.8$

b. The mean  $\bar{x} = 31.03$ ,  $s^2 = \frac{1}{9}(0.53^2 + 18.27^2 + 0.43^2 + 2.83^2 + 3.03^2 + 4.73^2 + 2.87^2 + 1.63^2 + 7.53^2 + 0.51^2) \approx 49.31$

c.  $s = \sqrt{49.31} \approx 7.02$

d.  $s^2 = \frac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1} = \frac{10072.41 - \frac{310.3^2}{10}}{9} \approx 49.31$

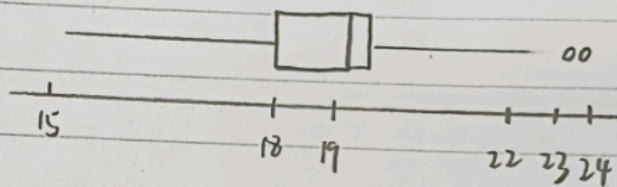


56. The median: 19.2

lower fourth: 18

upper fourth: 19.9

$$fs = 19.9 - 18 = 1.9 \quad 1.5fs = 2.85$$



A