

Algebra 1 – Statistics Questions on Distribution (mean and st dev) Name _____

Goals: Mean, Standard Deviation, stem and leaf plot

[IXL N 4, KK 2, KK 3]

Notes:

Mean: The Average. Add all the data values and divide by the number data values. Symbol is \bar{x}

Sample Size: the number of data values. Symbol is n

Standard Deviation: The average distance from the data values to the mean. Symbol is σ

Stem and Leaf Plot: a graph showing a list of heading values (stems) and the numbers that follow this heading number (leaves). Watch for the key to see how to build the numbers.

Example 1: Apply Your Knowledge To The Class Data 7

Find the following statistics for the heights of your classmates:

Five number summary:

Range:

Interquartile range:

Create a Box Plot and Dot Plot:

Mean:

Standard Deviation:

Example 2: the dot plot at the right shows the percents for the students in Mr. Jay's class on the last quiz. Find the following:

Five number summary:

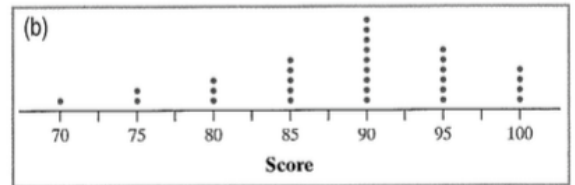
Range:

Interquartile range:

Create a Box Plot and Dot Plot:

Mean:

Standard Deviation:



Example 3: the stem and leaf plot at the right shows the number of shoes for female students. Find the following:

Five number summary:

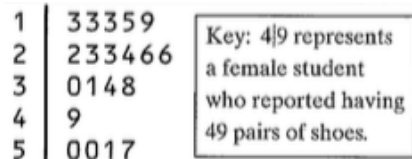
Range:

Interquartile range:

Create a Box Plot and Dot Plot:

Mean:

Standard Deviation:



Problem 1: The double sided stem and leaf plot at the right shows the number of shoes for male and female students.

Find the following for the females:

Five number summary:

Range:

Interquartile range:

Create a Box Plot and Dot Plot:

Mean:

Standard Deviation:

Find the following for the males:

Five number summary:

Range:

Interquartile range:

Create a Box Plot and Dot Plot:

Mean:

Standard Deviation:

Who has more shoes? Back it up...

Which group has lower variability? Back it up...

Problem 2: Use the data in the graph to find the median and mean for the data set.

Problem 3: Use the data in the graph to approximate the median and mean for the data set.

Problem 4: Use the data in the list to describe the median and mean for the data set.

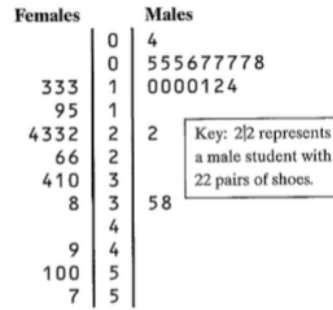
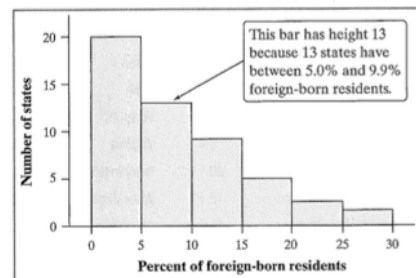
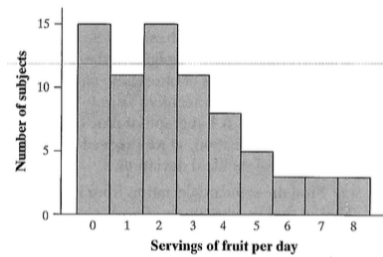


FIGURE 1.15 Back-to-back stemplot comparing numbers of pairs of shoes for male and female students at a school.



79. Quiz grades Joey's first 14 quiz grades in a marking period were

| | | | | | | |
|----|----|----|----|----|----|----|
| 86 | 84 | 91 | 75 | 78 | 80 | 74 |
| 87 | 76 | 96 | 82 | 90 | 98 | 93 |

69. Here are the amounts of money (cents) in coins carried by 10 students in a statistics class: 50, 35, 0, 97, 76, 0, 0, 87, 23, 65. To make a stemplot of these data, you would use stems
- (a) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.
 - (b) 0, 2, 3, 5, 6, 7, 8, 9.
 - (c) 0, 3, 5, 6, 7.
 - (d) 00, 10, 20, 30, 40, 50, 60, 70, 80, 90.
 - (e) None of these.

70. One of the following 12 scores was omitted from the stemplot below:

| | | | | | | | | | | | | | | | | | | | |
|--|------|----|----|----|----|----|----|----|----|----|----|---|---|---|----|---|------|---|------|
| 84 | 76 | 92 | 92 | 88 | 96 | 68 | 80 | 92 | 88 | 76 | 96 | | | | | | | | |
| <table style="border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">6</td> <td style="padding-left: 5px;">8</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">7</td> <td style="padding-left: 5px;">66</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">8</td> <td style="padding-left: 5px;">0488</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">9</td> <td style="padding-left: 5px;">2266</td> </tr> </table> | | | | | | | | | | | | 6 | 8 | 7 | 66 | 8 | 0488 | 9 | 2266 |
| 6 | 8 | | | | | | | | | | | | | | | | | | |
| 7 | 66 | | | | | | | | | | | | | | | | | | |
| 8 | 0488 | | | | | | | | | | | | | | | | | | |
| 9 | 2266 | | | | | | | | | | | | | | | | | | |

The missing number is

- (a) 76. (b) 88. (c) 90. (d) 92. (e) 96.

Apply Your Knowledge To The Class Data 8

Create a stem and leaf plot for the minutes before 700am the class wakes up.

Find the mean and median

**How will the mean and median change if another data value is added with a value of 120?

Apply Your Knowledge To The Class Data 9 - You will compare males to females

Find the following statistics for the age at first kiss:

| | Males | Females | Stem & Leaf Plot: |
|----------------------|-------|---------|-------------------|
| Five number summary: | | | |
| Range: | | | |
| Interquartile range: | | | |
| Mean: | | | |
| Standard Deviation: | | | |

Write a few sentences describing the center and spread for the males and females.