Statistical Reasoning
Making Graphical Displays

Name:

Stem-and-Leaf Plots

A **stem-and-leaf plot** uses the digits of data values to organize a data set. Each data value is broken into a **stem** (digit or digits on the left) and a **leaf** (digit or digits on the right).

A stem-and-leaf plot shows how data are distributed.

Stem	Leaf
2	0 0 1 2 5 7
3	1 4 8
4	2
5	8 9

Key: 2|0 = 20

The *key* explains what the stems and leaves represent.

2|0 = 2.0

2|0 = .20

1. Make a stem-and-leaf plot of the hair lengths.

smallest: 1
biggest: 47

Hair Length (centimeters)									
~~5~~	~~1~~	~~20~~	~~12~~	~~27~~	~~2~~	~~30~~	~~8~~	~~7~~	~~38~~
~~40~~	~~47~~	~~1~~	~~2~~	~~1~~	~~32~~	~~4~~	~~44~~	~~33~~	~~23~~

Regular Stem and Leaf Plot

Stem	Leaf
0	1 1 1 2 2 4 5 5 7
1	2
2	0 3 7
3	0 2 3 8
4	0 4 7

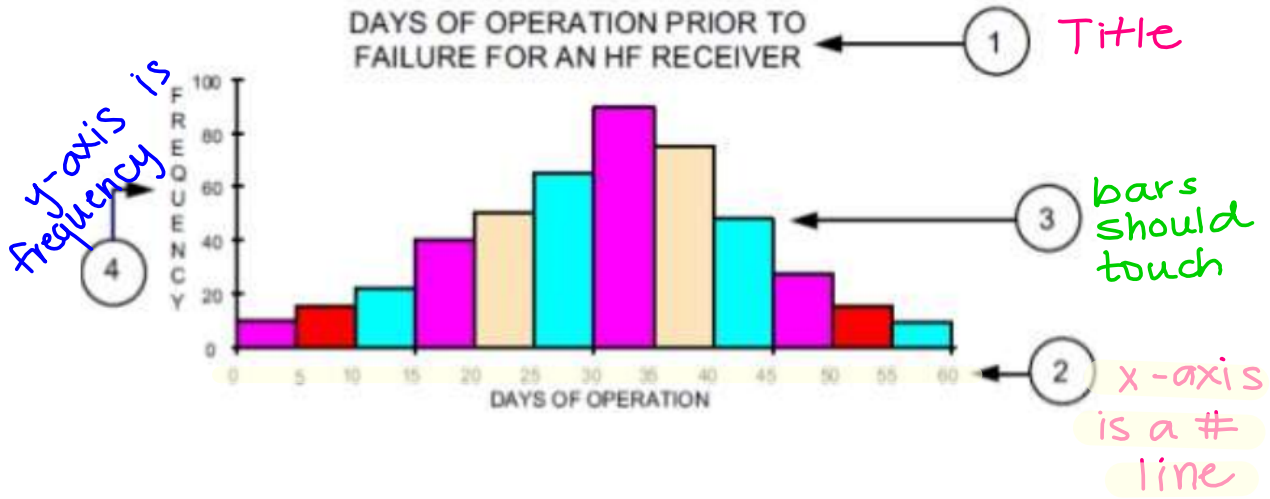
Key: 4|7 = 47

Split Stem and Leaf Plot

Stem	Leaf
0 (0-4)	1 1 1 2 2 4
0 (5-9)	5 5 7
1	2
1	
2	0 3
2	7
3	0 2 3
3	8
4	0 4
4	7

Key: 4|7 = 47

Parts of a Histogram



The following data consists of the weights, in pounds, of 24 high school students: 185, 206, 100, 98, 150, 210, 195, 186, 195, 188, 180, 212, 184, 195, 100, 216, 99, 206, 176, 142, 160, 135, 98, 160. Create a frequency table and a histogram to represent this data.

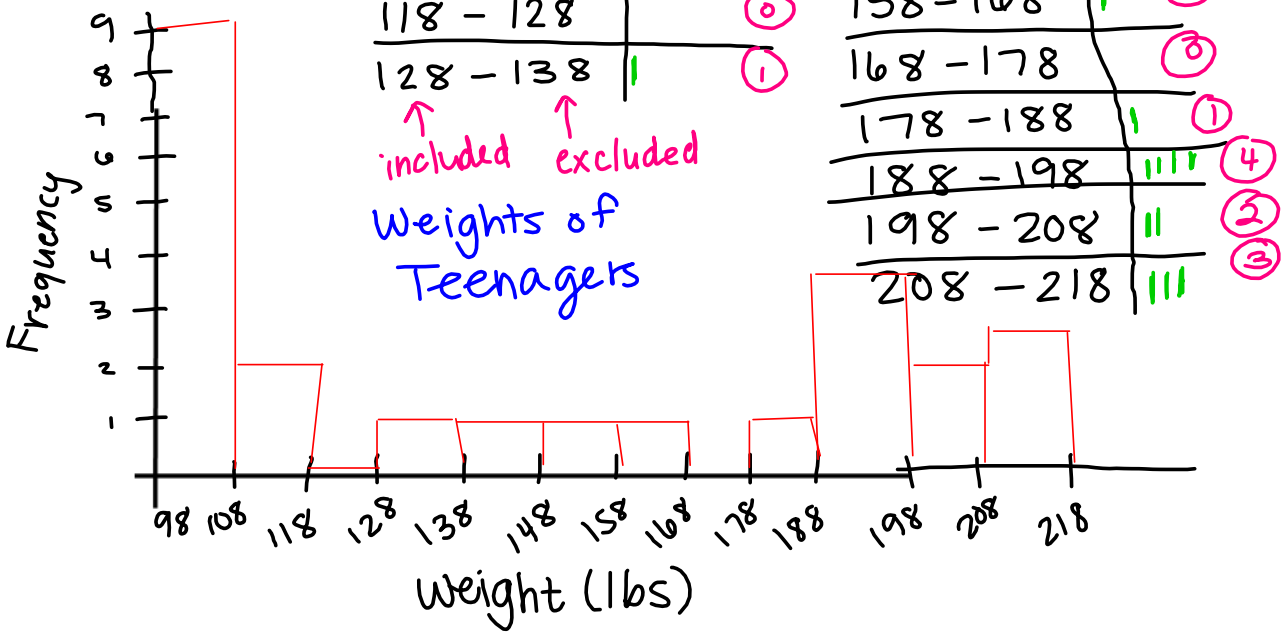
smallest: 98

largest: 216

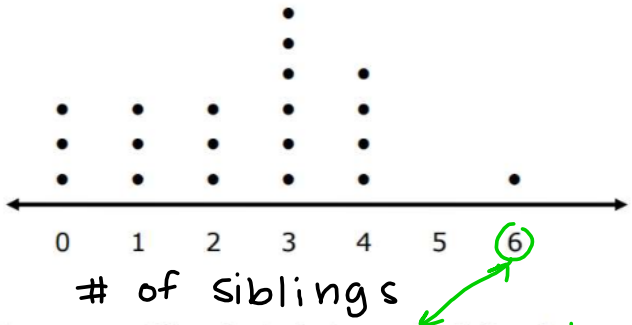
98 – 108	||||||||	9
108 – 118	||	2
118 – 128		0
128 – 138	|	1
138 – 148	|	1
148 – 158	|	1
158 – 168	|	1
168 – 178		0
178 – 188	|	1
188 – 198	||||	4
198 – 208	||	2
208 – 218	|||	3

↑ included ↑ excluded

Weights of Teenagers



1. The students in one social studies class were asked how many brothers and sisters (siblings) they each have. The dot plot here shows the results.



a. How many of the students have six siblings? 1

b. How many of the students have no siblings? 3

c. How many of the students have three or more siblings? 11

Nathan asked his classmates to estimate the number of hours they spend doing homework each week. The following data shows the results of his survey.