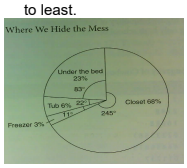
2.3 Stem and Leaf Plots with work

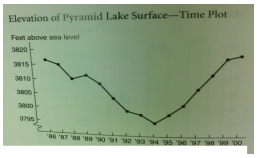
2.2 HW Answers

1. a) Yes, the percentages total more than 100%.

   b) No, in a circle graph the percentages must total 100% (within rounding error)

   c) Yes, the graph is organized in order from most frequently selected reason to least.

9. 

13. 

15. a) The size of the donut hole. Make all donuts exactly the same size, with the radius of the respective holes the same as well. Data labels showing percentages for each response would also be useful.

   b) College graduates have a higher frequency of "no" response than those having only high school or less.

Sep 25-9:04 AM

2.3 Stem-and-Leaf Plots

Essential Question:

When should I use a stem-and-leaf plot versus other style of graphs?

Focus Points:

- Construct a stem-and-leaf display from raw data.
- Use a stem-and-leaf plot to visualize data distribution.
- Compare a stem-and-leaf plot to a histogram.

Sep 25-10:02 AM

A stem-and-leaf display is a method of explanatory data analysis that is used to rank-order and arrange data into groups.

15,16,21,23,23,26,26,30,32,41

Stem	Leaf
1	5 6
2	1 3 3 6 6
3	0 2
4	1

how to place "32"

List the 3 lowest and 2 highest numbers from this data set.

Stem and Leaf Plot

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

41, 52, 57 & 80, 95

Sep 25-10:22 AM

How to Make a Stem-and-Leaf Display

1. Divide the digits of each data value into two parts. The leftmost part is called the stem and the rightmost part is called the leaf.
2. Align all the stems in a vertical column from smallest to largest. Draw a vertical line to the right of all the stems.
3. Place all the leaves with the same stem in the same row as the stem, and arrange the leaves in increasing order from left to right.
4. Use a label to indicate the magnitude of the numbers in the display. We include decimal position in the label rather than with the stem or leaves.

Sep 25-10:27 AM

EXAMPLE 1: Basketball

What does it take to win at sports? If you're talking about basketball, one sportswriter gave the answer. He listed the winning scores of the conference championship games over the last 35 years. The scores for those games follow below.

132	118	124	109	104	101	125	83	99	131	98	125
97	106	112	92	120	103	111	117	135	143	112	112
116	106	117	119	110	105	128	112	126	105	102	

a) Create a stem-and-leaf plot

8	3
9	2 7 8 9
10	1 2 3 4 5 5 6 6 9
11	0 1 2 2 2 6 7 7 8 9
12	0 4 5 5 8
13	1 2 5
14	3

b) Describe the distribution

roughly Symmetrical or Slightly skewed Right

Sep 25-10:31 AM

Split Stemplot is a form of a stem-and-leaf plot that (similar to histograms) helps us avoid too many data points in a small range.

ages of which a sample of 35 American mothers first gave birth

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

Split-Stem for ages of which a sample of 35 American mothers first gave birth

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

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2.3 Stem and Leaf Plots with work

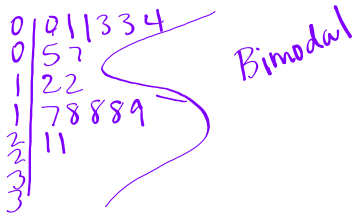
EXAMPLE 2: Carry-on Weight in lbs

Many airline passengers seem weighted down by their carry-on luggage. Just how much weight are they carrying? The carry-on luggage weights in pounds for a random sample of 40 passengers returning from a vacation to Hawaii were recorded below.

30	27	12	4	35	7	38	36	27	35	22	17
29	3	21	0	38	32	1	33	26	5	18	3
18	32	31	19	21	33	31	28	29	1	12	32
18	21	26									

a) Make a split-stem display to show the distribution of data

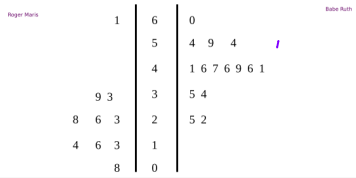
b) Describe the distribution



Sep 25-10:43 AM

Back-to-Back Stem Plots allow for you to compare two sets of data at the same time.

Roger Maris VS Babe Ruth: Who hit more home runs?



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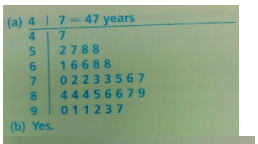
WHAT DO STEM-AND-LEAF DISPLAYS TELL US?

- shows us all the data in order from smallest to largest
- helps us spot extreme data values (outliers) or clusters (gaps) of data values
- displays the shape of the data distribution

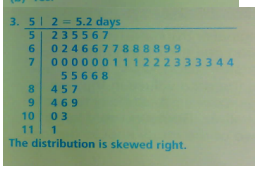
Sep 25-10:56 AM

HW: pg. 73: 1, 3, 5, 10

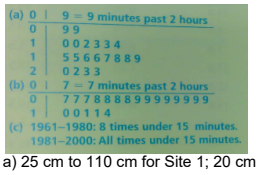
1.



3.



5.



10. a) 25 cm to 110 cm for Site 1; 20 cm to 125 cm for Site II

b) Site 1 distribution is somewhat symmetrical; Site II distribution has two distinct parts

c) Possibly.

Sep 25-10:53 AM