MAT 1372 Statistics with Probability HW3

p.47

1. For the following data, draw stem-and-leaf plots having (a) 4 stems and (b) 8 stems.

124, 129, 118, 135, 114, 139, 127, 141, 111, 144, 133, 127,

122, 119, 132, 137, 146, 122, 119, 115, 125, 132, 118, 126,

134, 147, 122, 119, 116, 125, 128, 130, 127, 135, 122, 141

**3.** The following are the ages, to the nearest year, of 43 patients admitted to the emergency ward of a certain adult hospital:

23, 18, 31, 79, 44, 51, 24, 19, 17, 25, 27, 19, 44, 61, 22, 18,

14, 17, 29, 31, 22, 17, 15, 40, 55, 16, 17, 19, 20, 32, 20, 45,

53, 27, 16, 19, 22, 20, 18, 30, 20, 33, 21

Draw a stem-and-leaf plot for this data set. Use this plot to determine the 5-year interval of ages that contains the largest number of data points.

p.79

3.2.1The following data represent the scores on a statistics examination of a sample of students:

87, 63, 91, 72, 80, 77, 93, 69, 75, 79, 70, 83, 94, 75, 88

What is the sample mean?

3.2.9 Find the sample mean for this data set:

1, 2, 4, 7, 10, 12

Now find the sample means for the data sets

3, 6, 12, 21, 30, 36 and 6, 7, 9, 12, 15, 17

p.86

3.3.1The following are the total yardages of a sample of 12 municipal golf

courses:

7040, 6620, 6050, 6300, 7170, 5990, 6330, 6780, 6540, 6690, 6200, 6830

**(a)** Find the sample median.

**(b)** Find the sample mean.

3.3.2 **(a)** Determine the sample median of the data set

14, 22, 8, 19, 15, 7, 8, 13, 20, 22, 24, 25, 11, 9, 14

**(b)** Increase each value in (a) by 5, and find the new sample median.

**(c)** Multiply each value in (a) by 3, and find the new sample median.

3.3.11The histogram in the figure below describes the annual rainfall, in inches, over the last 34 years in a certain western city.

 Since the raw data are not recoverable from a histogram, we cannot use them to exactly compute the value of the sample mean and sample median.

Still, based on this histogram, what is the largest possible value of

 **(a)** The sample mean?

**(b)** The sample median?

What is the smallest possible value of

**(c)** The sample mean?

**(d)** The sample median?

**(e)** The actual data follow:

15.2, 16.1, 16.5, 16.7, 17.2, 17.5, 17.7, 18.3, 18.6, 18.8, 18.9, 19.1,

19.2, 19.2, 19.6, 19.8, 19.9, 20.2, 20.3, 20.3, 20.8, 21.1, 21.4, 21.7,

22.2, 22.5, 22.5, 22.7, 22.9, 23.3, 23.6, 24.1, 24.5, 24.9

Determine the sample mean and sample median and see that they are consistent with your previous answers.

p.98

3.4.1 Match each statement in the left-hand column with the correct data set from the right-hand column.

1. Sample mode is 9 A: 5, 7, 8, 10, 13, 14

2. Sample mean is 9 B: 1, 2, 5, 9, 9, 15

3. Sample median is 9 C: 1, 2, 9, 12, 12, 18

3.4.5 Construct a data set for which the sample mean is 10, the sample median is 8, and the sample mode is 6.