In-Class 3
Sections 3.1-3.3
Math 110: Elementary Statistics

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1) Find the mean of the data in the following stem-and-leaf plot. The leaf represents the ones digit.

1	2288
2	018
3	58
4	6

$$\bar{x} = \frac{12 + 12 + 18 + 18 + 20 + 21 + 28 + 35 + 38 + 46}{10}$$

$$\bar{x} = 24.8$$

2) Following are heights, in inches, for a sample of college basketball players.

72	72	85	74	72	74	79	75	71	78
88	86	86	85	86	77	82	78	77	85

Find the sample standard deviation for the heights of the basketball players.

$$\bar{x} = 79.1$$

$$s^2 = \frac{\Sigma (x_i - \mu)^2}{N}$$

$$= \frac{631.8}{19}$$

$$= 33.253$$

$$s = \sqrt{s^2} = \sqrt{33.253}$$

$$= 5.767$$

3) The table below lists the populations, in thousands, of several rural western counties. What is the median population?

County	Population (thousands)
Aldridge	13
Cleveland	10
McCarthy	16
Pope	20
Sorrell	15
Wilson	25

10 13 15 16 20 25

median $= \frac{(15+16)}{2} = \frac{31}{2} = 15.5$ thousands

4) The following population parameters were obtained from a graphing calculator.

mean
sum
sum x^2
sample std devi
population std devi
# of data

1-Var Stats
$\bar{x}$=55
$\sum x$=935
$\sum x^2$=51425
Sx=12.3693169
σx=12
n=17

68% = $\bar{x} - \sigma$ to $\bar{x} + \sigma$

95% = $\bar{x} - 2\sigma$ to $\bar{x} + 2\sigma$

Assuming the population is bell-shaped, approximately what percentage of the population values are between 43 and 67?

55 − 12 = 43

55 + 12 = 67

68% of the population are between 43 and 67

5) Gina and Stewart are surf-fishing on the Atlantic coast, where both bluefish and pompano are common catches. The mean length of a bluefish is 288 millimeters with a standard deviation of 51 mm. For pompano, the mean is 129 mm with a standard deviation of 40 mm.

Stewart caught a bluefish that was 321 mm long. What was the *z*-score for this length?

$z = \frac{321 - 288}{51} = \frac{33}{51} = 0.647$

Answer Key

1) The mean 24.8
2) s = 5.8
3) The median is 15.5 thousand
3) 68% of the population values are between 43 and 67
5) The z-score of the length is 0.6