Name: _____   **Date:** _____

Directions: Answer the following questions about Frequency Tables.

1). Luis surveyed 100 students about whether they like soccer. The number of girls and the number of boys completing the survey are equal. Complete the following Frequency Tables.

	Likes Soccer		
Gender	Yes	No	Total
Girl	30	20	50
Boy	15	35	50
Total	45	55	100

2). Find the Relative Frequency of the table using decimals rounded to the nearest hundredth.

	Likes Soccer		
Gender	Yes	No	Total
Girl	$\frac{30}{100} = 30\%$	$\frac{20}{100} = 20\%$	$\frac{50}{100} = 50\%$
Boy	$\frac{15}{100} = 15\%$	$\frac{35}{100} = 35\%$	$\frac{50}{100} = 50\%$
Total	$\frac{45}{100} = 45\%$	$\frac{55}{100} = 55\%$	$\frac{100}{100} = 100\%$

3). Out of the entire survey, what percentage describes boys, who like soccer?

$$\frac{15}{100} = 15\%$$

4). Out of the entire survey, what percentage describes girls, who do not like soccer?

$$\frac{20}{100} = 20\%$$

5). Out of the number of boys surveyed, what is the percentage of boys, who do not like soccer?

$$\frac{35}{50} = 70\%$$

6). What percentage of students, who do not like soccer, are boys?

$$\frac{35}{55} = 64\%$$

Directions: Answer the following questions about the given data set.

The numbers of members in 6 yoga clubs are 80, 74, 77, 71, 75, and 91.

7). Find the mean and median of the given data set.

$$\frac{80 + 74 + 77 + 71 + 75 + 91}{6} = \frac{468}{6} = \boxed{78}$$

$$71, 74, 75, 77, 80, 91$$

$$\frac{75 + 77}{2} = \boxed{76}$$

8). Find the range, the first quartile, the third quartile, and interquartile range of the data set.

$$\text{Range} = 91 - 71 = \boxed{20}$$

$$\boxed{\begin{array}{l} Q_1 = 74 \\ Q_3 = 80 \end{array}}$$

$$\begin{array}{ccccccc} Q_1 & & & Q_2 & & Q_3 & \\ 71 & 74 & 75 & \downarrow & 77 & 80 & 91 \\ & 74 & & 76 & & 80 & \end{array}$$

$$IQR = 80 - 74 = \boxed{6}$$

9). What is the standard deviation of the given data set.

$$\begin{array}{ll} 91 - 78 = 13 & 13^2 = 169 \\ 80 - 78 = 2 & 2^2 = 4 \\ 77 - 78 = 1 & 1^2 = 1 \\ 75 - 78 = 3 & 3^2 = 9 \\ 74 - 78 = 4 & 4^2 = 16 \\ 71 - 78 = 7 & 7^2 = 49 \end{array}$$

$$\frac{169 + 4 + 1 + 9 + 16 + 49}{6} = \frac{248}{6}$$

$$41.\overline{3}$$

$$\boxed{\sqrt{41.\overline{3}}} = 6.43$$

10). Is 91 an outlier?

$$91 > Q_3 + 1.5(IQR)$$
$$91 > 80 + 1.5(6)$$
$$91 > 80 + 9$$
$$91 > 89$$

91 is an outlier.

The number of students on 5 busses are 30, 28, 34, 27, and 16 .

11). Find the mean and median of the given data set.

$$\frac{30 + 28 + 34 + 27 + 16}{5} = \boxed{27}$$

16, 28, 28, 30, 34

$$\boxed{28}$$

12). Find the range, the first quartile, the third quartile, and interquartile range of the data set.

range = 34 - 16 = 18

Q_1 Q_2 Q_3

16 | 27   28   30 | 34

$$\frac{27 + 16}{2}$$

$\boxed{21.5}$

$$\frac{34 + 30}{2} =$$

$\boxed{32}$

$Q_1 = 21.5$

$Q_3 = 32$

$IQR = 32 - 21.5 =$

$$\boxed{10.5}$$

13). What is the standard deviation of the given data set.

34 - 27 = 7 $7^2 = 49$

30 - 27 = 3 $3^2 = 9$

28 - 27 = 1 $1^2 = 1$

27 - 27 = 0 $0^2 = 0$

16 - 27 = 11 $11^2 = 121$

$$\frac{49 + 9 + 1 + 0 + 121}{5} = \frac{186}{5} = 36$$

$$\sqrt{36} = \boxed{6}$$

14). Is 16 considered an outlier?

$16 < 32 + 1.5(10.5)$
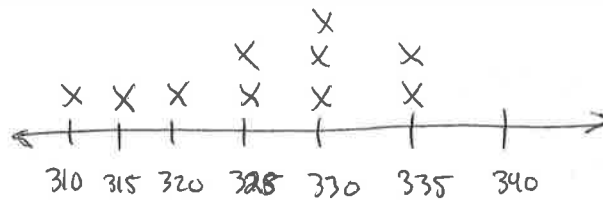
$16 < 32 + 15.75$

$16 < 47.75$

16 is an outlier

Directions: Answer the following questions based off Dot Plots.

The number of feet to the left outfield wall for 10 randomly chosen baseball stadiums is 315, 325, 335, 330, 330, 330, 320, 310, 325, and 335.

310, 315, 320, 325, 325,
330, 330, 330, 335, 335

15). Create a Dot Plot

16). Is the dot plot symmetric, Skewed to the left, or Skewed to the Right?

Skewed to the left.

17). Based off your answer for Number 16, What does that mean according to the data set?

This means that more then half the stadiums have a fett field wall are greater then the mean.