Name:_____Period:_____

Secondary 1 Honors - Unit 7 Review Sheet

The wait time (in minutes) for a several rides was estimated at Lagoon.
65, 21, 17, 52, 25, 17, 11, 22, 60, 44.

Use the above data to answer questions 1-10.

1. Find the mean 2. Find the median 3. Find the mode 4. Find the range

★5. Find the mean and standard deviation. Round your answers to the hundredths place.

$\bar{x}$ = _____ σ =_____

6. Using your answers from #5, calculate one standard deviation below and above the mean.

Below:_____ Above:_____

★7. Use your graphing calculator to generate the 5 number summary. Then create a box and whisker plot.

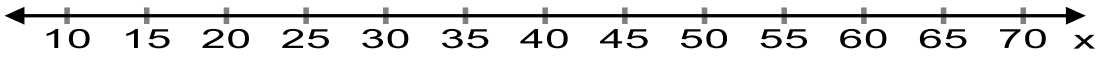
min:_____

Q1: _____

med.:_____

Q3:_____

max:_____

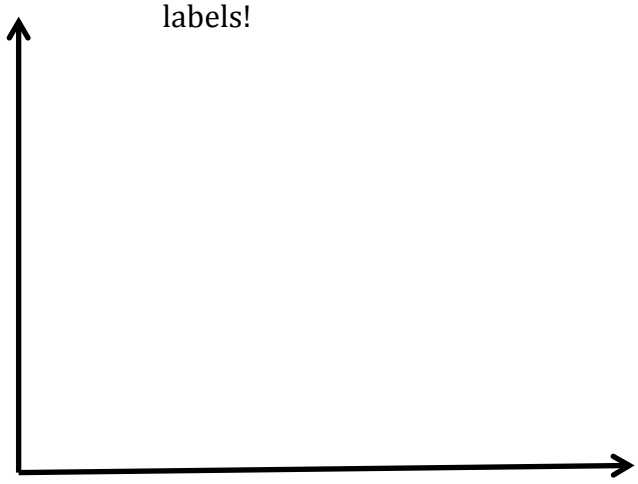


8. What is the distribution of the box and whisker you just created? (skew left, skew right, or normal)

9. Complete the frequency chart provided below.
Use intervals of 10.

	Tally	Frequency
10 -		

10. Create a histogram from the data in your frequency chart. Remember labels!



Name:_____Period:_____

The following is the score of each BYU and Utah men's basketball game for the 2011-2012 season.

BYU: 74, 91, 96, 62, 73, 92 ,90, 76, 56, 87, 79, 94, 61, 83, 93, 89, 79, 82, 88, 73, 81, 95, 82, 68, 77, 70, 66, 83, 79, 86, 85, 82, 63, 76

Utah: 60, 58, 59, 64, 47, 75, 65, 52, 50, 42, 71, 72, 51, 33, 62, 53, 65, 45, 51, 62, 49, 45, 68, 58, 52, 61, 48, 46, 58, 67, 48, 41

★10. Enter the data into your graphing calculator and use it to complete the 5 number summaries below.

BYU min:_____
Q1: _____
med.:_____
Q3:_____
max:_____

Utah min:_____
Q1: _____
med.:_____
Q3:_____
max:_____

11. Using your answers to #10, plot both box and whiskers above the number line below. Be sure to label which box and whisker belongs to which team.

15. What is distribution of BYU's box and whisker plot? _____

16. What is the distribution of Utah's box and whisker plot? _____

17. What is BYU's range? _____ What is Utah's range? _____

18. Which team had the higher median score? _____

19. In your opinion, who had the better season and why?

★ 20. Find the mean and standard deviation for each team.

BYU: $\bar{x}$ = _____ σ =_____ **Utah:** $\bar{x}$ = _____ σ =_____

Use the mean and standard deviation to help you answer the next two questions:

21. BYU scored between about _____ and _____ points for most of their games.

22. Utah scored between about _____ and _____ points for most of their games.

Name:_____Period:_____

The following data is the population of a city starting in the year 1890. Let *x* represent the number of years since 1890.

Year	Population
1890	1,907
1900	2,456
1910	2,932
1920	3,078
1930	3,126
1940	3,533
1950	3,627
1960	4,377
1970	4,659
1980	5,848
1990	6,475

★23. Use your calculator to find the equation of the linear regression line.

★24. Bring up the scatter plot on your calculator screen, including the linear regression line. Once you have found a good viewing window, **draw a sketch of the graph** in the box below. Be sure to **include labels and to state your viewing window.**

★25. What is the correlation coefficient of the data? (round to the hundredths place) _____

26. Interpret the correlation coefficient. (circle your answers)

Direction: positive or negative

Strength: no correlation, weak, moderate, strong, very strong, or perfect correlation

27. What is the slope of the linear regression line? What does it tell us about the situation?

28. What is the y-intercept of the linear regression line? What does it tell us about the situation?

29. Use your linear regression equation to predict the population in the year 2015.

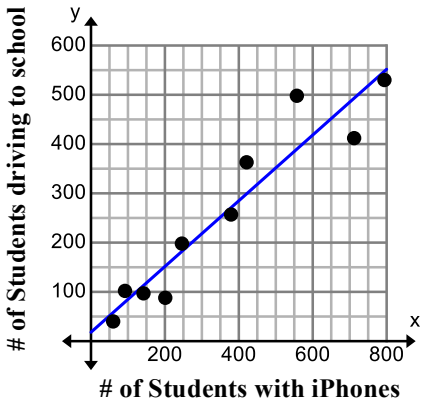
30. Use your linear regression equation to predict what year the population will reach 10,000 people.

31. Is there causation between the year and the population? In other words, just because time goes by does the population have to change?

Name:_____Period:_____

High schools were surveyed to see how of their students owned iPhones and how many of their students drive themselves to school.

Number of students with iPhones (x)	Number of students driving to school (y)
60	40
92	102
142	97
201	88
246	198
379	257
421	363
557	498
712	412
794	530



★32. Use your graphing calculator to calculate the correlation coefficient of the data set. _____

33. Interpret the correlation coefficient. (circle your answers)

Direction: positive or negative **Strength:** no correlation, weak, moderate, strong, very strong, or perfect correlation

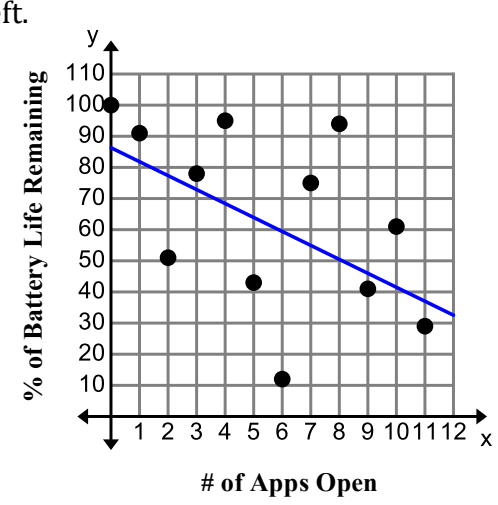
34. Is there causation in this situation?_____

35. Does having more iPhones in a school cause more kids to drive to school?_____

36. Are there any hidden variables that impact this situation?

The following data shows the relationship between how many apps people had running on their smart phones versus what percent of battery life they had left.

Number of apps open on smart phone (x)	Percentage of battery life left (y)
0	100
1	91
2	51
3	78
4	95
5	43
6	12
7	75
8	64
9	41
10	61
11	29



★37. Use your graphing calculator to calculate the correlation coefficient of the data set. _____

38. Interpret the correlation coefficient. (circle your answers)

Direction: positive or negative **Strength:** no correlation, weak, moderate, strong, very strong, or perfect correlation

39. Is there causation in this situation?_____

40. Does having a lot of apps running mean you have to have a low battery life?_____

Name:_____Period:_____

★Use your graphing calculator to match each data set to the appropriate box-and-whisker plot.

41. Data Set A:
11, 25, 31, 32, 34, 37, 38, 38, 39, 40

Matches Graph:_____

42. Data Set B:
11, 23, 24, 24, 27, 27, 30, 32, 37, 40

Matches Graph:_____

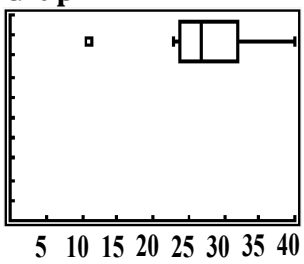
43. Data Set C:
11, 17, 18, 21, 22, 35, 38, 39, 40, 40

Matches Graph:_____

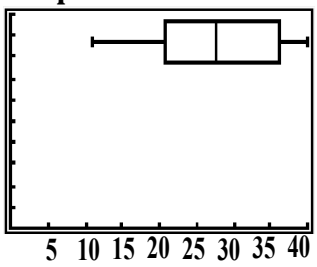
44. Data Set D:
11, 20, 21, 24, 25, 30, 36, 36, 37, 40

Matches Graph:_____

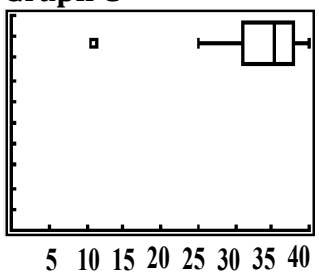
Graph A



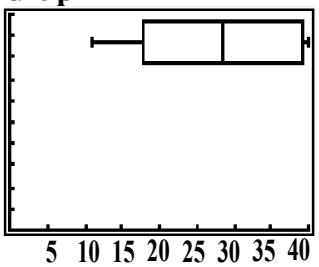
Graph B



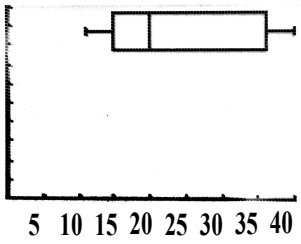
Graph C



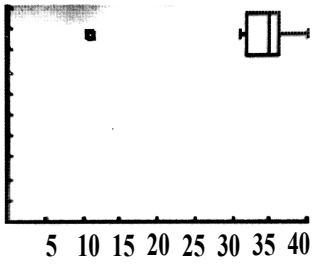
Graph D



Graph E

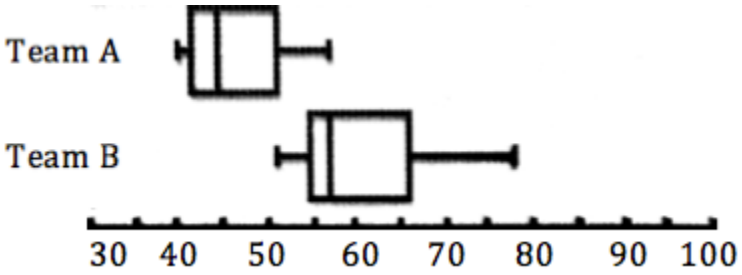


Graph F



Name:_____ Period:_____

The graph below shows the box and whisker plot for two different basketball teams during their season of games. Use the graph below to label each statement as TRUE or FALSE.



End of Game Scores

45. _____ Team A had a greater range of scores throughout the season than Team B.

46. _____ 50% of Team B's scores were between about 66 and 79.

47. _____ Team A's maximum score was the same as Team B's median score.

48. _____ 50% of Team A's scores were between 40 and 45.

49. _____ 50% of Team B's scores were higher than any of Team A's scores.

50. _____ Team A's Q3 is the same as Team B's Q1 score.