Sec I – Term 4 Name_____ ID: 1

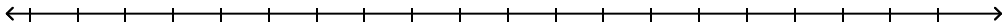
Self Check #19 – Statistics & Correlation Date_____Period_____

Use the following data of the ages of the Best Actor Winners to answer questions 1-9:

63, 52, 84, 55, 44, 36, 32, 38, 18, 48, 46, 59, 52, 81, 62, 64, 52

1. Find the following: Min: Q1: Med: Q3: Max:

2. Make a Box Plot



3. What is the mean of the data?

4. What is the interquartile-range (IQR)?

5. What is the standard deviation?

5. What is the range of the data?

7. What is the mode?

9. Is there an outlier?

Use the data below about Time someone spent Searching for an iPod online and how much of a discount they were able to get. .

Time Spent Searching (minutes)	26	19	25	16	24	24	28	21	18
Dollars Discounted	27	18	21	21.5	23	24	29	19.5	17.5

6. Make a scatter plot of the data. Which kind of regression would me more appropriate for the situation, Linear or Exponential?

7. What is the linear regression equation?

8. What is the slope? What does it mean in terms of sale prices and time spent on the internet?

9. What is the y-intercept? What does it mean in terms of time spent searching and dollars discounted? Does it make sense in the context?

10. Predict the dollars discounted if the time spent searching is 25 minutes.

11. What is the correlation coefficient?

12. Is the correlation between time searching and dollars discounted a good correlation?

13. Do you believe there is a causational relationship between time searching and dollars discounted?

Use the following tables and your calculator to complete the following:

The table below shows the number frogs in a pond over time.

years	9	15	0	6	2	12	7	5	3
# of frogs in the pond	34	5	286	89	216	25	57	119	168

14. Find the exponential regression equation on your calculator.

15. What does the factor of change tell you in terms of the situation?

16. What does the y-intercept tell you in terms of the situation?

17. What is the correlation coefficient?

18. What does this tell you about the relationship between number of years and number of frogs?

For each data set shown, state the correlation between the two variables. Determine if you think there is a causation relationship between the variables. If so, explain why. If not, give some other factors that might cause the correlation.

Absences	6	1	15	9	12	5	8	10	20
Final Grade	80	99	41	72	56	86	70	65	23

19. What is the linear correlation coefficient?

20. Do you think there is a causational relationship? If so, what is it?

21. Why do you think there is causation? or What else might explain the correlation?

Number of years worked and annual salary (in thousands of dollars).

Years	0.5	1	1	1.5	2	2	3	4	4.5	9	9.5	15
Salary (thousands of $)	55	63	64	62	64	68	70	74	74	80	85	90

22. Correlation coefficient:

23. Is there a correlation? How do you know?

24. Is there a Causation?

25. Why or why not?