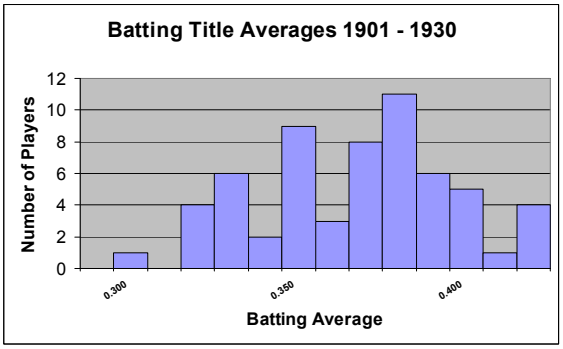
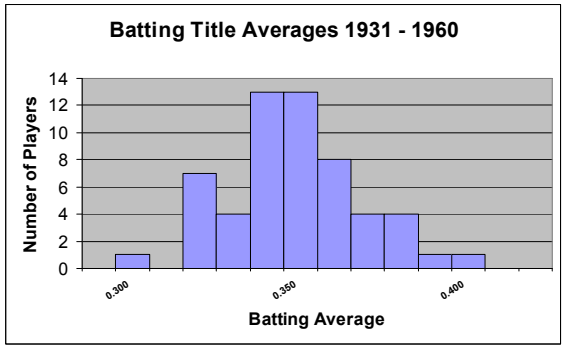
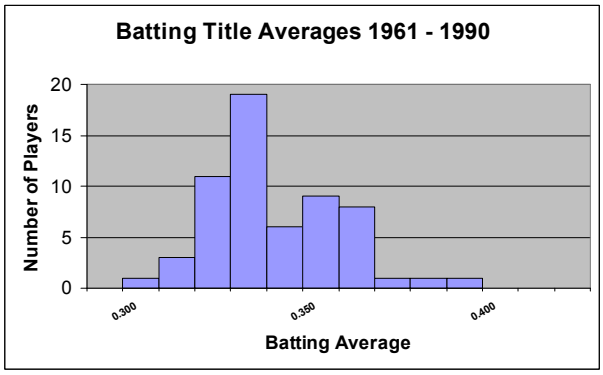
Name _____ Period _____

Histogram Worksheet

The 3 histograms below show the batting averages of the winners of the batting title in the major league baseball (for both the American & National leagues) for certain years in the 1900s. Batting average shows the percent (written as a decimal) of the time a certain player gets a hit. A player who has a batting average of 0.405 has gotten a hit in 40.5 % of the times that they were at bat. The batting title is an award given to the player with the highest batting average for a given season. Refer to the histograms as you answer questions 1 – 6.







_____ 1. How many batting titles were won with a batting average of between 0.300 – 0.350 from 1901 to 1930?

_____ 2. How many batting titles were won with a batting average of between 0.300 – 0.350 from 1931 to 1960?

_____ 3. How many batting titles were won with a batting average of between 0.300 – 0.350 from 1961 to 1990?

4. If you were to find the mean of each of the winning batting averages for each time period, which time period do you think would have the highest mean? Explain.

_____

_____

5. As the century progressed, what in general happened to the batting averages of the batting title winners? Explain.

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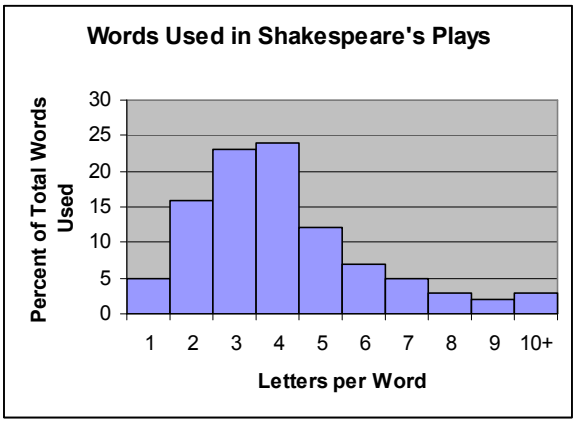
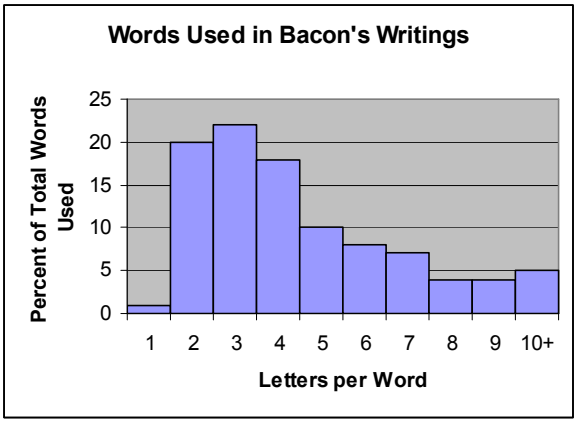
For questions 6 – 10, refer to the following 2 histograms. These histograms were made in an attempt to determine if William Shakespeare was really just a pen name for Sir Francis Bacon. (A pen name is a fake name used by another person when writing). A few scholars have had this idea and in order to determine if this was true, a researcher had to count the letters in every word of Shakespeare's plays & Bacon's writing (and you thought you had a lot of homework). Their results are recorded in the histograms below.





_____ 6. What percent of all Shakespeare's words are 4 letters long?

_____ 7. What percent of all Bacon's words are 4 letters long?

_____ 8. What percent of all Shakespeare's words are more than 5 letters long?

_____ 9. What percent of all Bacon's words are more than 5 letters long?

10. Based on these histograms, do you think that William Shakespeare was really just a pen name for Sir Francis Bacon? Explain.

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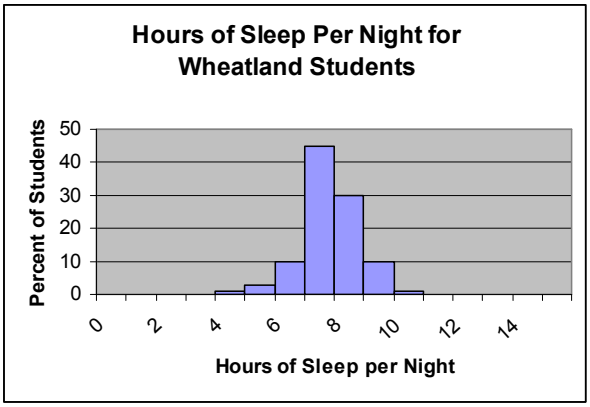

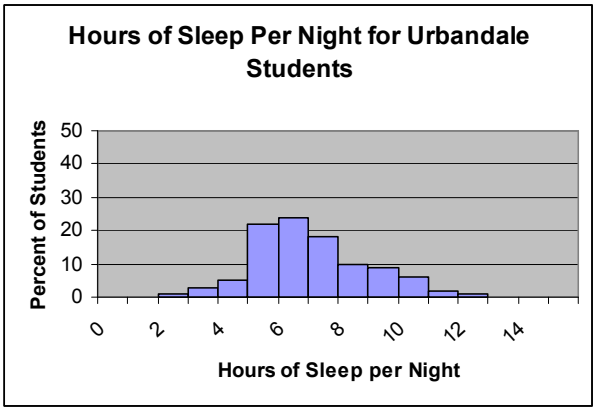

Suppose that the two histograms above show the sleeping habits of the teens at two different high schools. Wheatland High School is a small rural school consisting of 100 students while Urbandale High School is located in a large city and has 3,500 students.

_____ 11. About what percent of the students at Wheatland get at least 8 hours of sleep per night?

_____ 12. About what percent of the students at Urbandale get at least 8 hours of sleep per night?

_____ 13. Which high school has more actual students that sleep between 9 – 10 hours per night?

_____ 14. Which high school has a higher median sleep time?

15. Wheatland's percent of students who sleep between 8-9 hours a night is _____ % more than Urbandale's percent of students who sleep between 8-9 hours per night.

16. Consider the type of data in the last two sets of problems (letters per word & sleep times).

_____ a) Are letters per word qualitative or quantitative?

_____ b) Are sleep times qualitative or quantitative?

_____ c) Which data set is continuous?

_____ d) Which data set is discrete?

17. The charts below shows the age of the actress & actor who won the Oscar for best actress or actor during the first 30 years of the Academy Awards. Use the charts to make two histograms (one for winning actresses ages & one for winning actors ages) displaying this information. Use bin widths of ten years (0-9; 10-19; 20-29 etc.)

Year	Age of Winning Actress	Age of Winning Actor
1928	22	42
1929	36	40
1930	28	62
1931	62	53
1932	32	35
1933	24	34
1934	29	33
1935	27	52
1936	27	41
1937	28	37
1938	30	38
1939	26	34
1940	29	32
1941	24	40
1942	34	43

Year	Age of Winning Actress	Age of Winning Actor
1943	24	49
1944	29	41
1945	37	40
1946	30	49
1947	34	56
1948	34	41
1949	33	38
1950	28	38
1951	38	52
1952	45	51
1953	24	35
1954	26	30
1955	47	38
1956	41	41
1957	27	43

18. Write a short paragraph discussing what your two histograms reveal.

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