

STATISTICS 101 - Homework 2

Due Friday, May 27, 2005

- Homework is due on the due date at the end of lecture.
- You may talk with others about the homework problems but please write your solutions up independently.
- Please answer homework questions in complete sentences. Make sure to **staple** the pages of your assignment together. **Be sure to indicate the lab section on your paper.**
- You will have an opportunity to get help on homework during lab.

Reading: May 23 - May 27 Chapter 6

Problems:

1. The career home runs leader in Major League Baseball is Hank Aaron. Over 23 seasons in the major leagues, he hit 755 home runs. His home runs totals for the 23 seasons are listed below.

Year	Home Runs	Year	Home Runs	Year	Home Runs	Year	Home Runs
1954	13	1960	40	1966	44	1972	34
1955	27	1961	34	1967	39	1973	40
1956	26	1962	45	1968	29	1974	20
1957	44	1963	44	1969	44	1975	12
1958	30	1964	24	1970	38	1976	10
1959	39	1965	32	1971	47		

- (a) Make a stem and leaf display of the number of home runs Hank Aaron hit per season.
 - (b) Using your stem and leaf display, describe the distribution of home runs per season for Hank Aaron. Make sure to mention the shape, center, spread, and any outliers or interesting characteristics of the distribution.
 - (c) Calculate the mean number of home runs Hank Aaron hit per season.
 - (d) Calculate the median number of home runs Hank Aaron hit per season. Why is the median number of home runs larger than the mean number of home runs?
 - (e) Calculate the five number summary for these data.
 - (f) Given the value $\sum(y - \bar{y})^2 = 2751.3$, calculate the standard deviation for these data.
 - (g) Which summary would you use for these data, the five number summary or the mean and standard deviation? Explain your answer.
 - (h) An historical question: The previous career home runs leader was Babe Ruth with 714 career home runs. What year did Hank Aaron tie and break Babe Ruth's home run record? What home runs of that year were the 714th and the 715th home runs? **LOOK AT THE DATA FOR THE ANSWERS.**
2. Starting on page 99 in the text, do exercises 6, 12, 20, 22, 24, 28, and 31.