

Introduction to Statistics

Activity 1.1a

NAME:

Gettysburg Address

- a) Pick ten words at random from the Gettysburg address. Record each word and how many letters it has:

	Word?	Length?
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

- b) b. Indicate the observational units and variable.

Observational unit:

Variable:

- c) What is the average (mean) number of letters in your sample? Is this a parameter or statistic?

- d) List your sample average with those of your classmates

- e) Indicate the observational units and variable for this new list.
 Observational unit: _____ Variable: _____
- f) The ACTUAL average letter length in the Gettysburg address is 4.29.
 How many students had a larger average? What's the proportion?
- g) Was the sampling method biased? In what direction? How can you tell?
- h) Why is the sampling method biased?
- i) What about closing your eyes and pointing at words at random – would this be biased? If so, why?

Our selection method should give every member of the population an equal chance of being in the sample. This is called simple random sampling (SRS).

- j) We are going to use a computer-generated table of random digits to determine which words to include in our sample. Go to random.org and ask the tool to pick numbers between 1 and 268. Generate 5 numbers and put them in the “SRS #” column below. Then, use the table on the overhead to find the associated word, then determine its length.

	SRS #	Word from table	Length?
1			
2			
3			
4			
5			

- k) What is the average length of words in your sample?
- l) List your sample average with those of your classmates.

- m) What is the average length of words in the list in the previous part?

- n) How does the word length estimate of the earlier “chosen” sample averages compare to the later “random” sample averages?