Quiz next week (of March 3)

<u>Topics to be covered:</u>

- Sampling methods
    - o SRS (review the table of random digits)
    - o Stratified
    - o Cluster
    - o Multi-stage
    - o Systematic

- Cautions about surveys (undercoverage, nonresponse, etc)

- Population vs sample

- Parameter vs statistic

Example: You have 30 individuals. Randomly assign five people to one of the treatments (using the random digits table).

27816	78416	18329	21337	35213	37741
66925	55658	39100	78458	11206	19876
08421	44753	77377	28744	75592	08563
53645	66812	61421	47836	12609	15373
66831	68908	40772	21558	47781	33586
55588	99404	70708	41098	43563	56934

Label: 01 02 03 ... 29 30

Table: 27 16 18 13 21

Example: A researcher wants to estimate the average height of women aged 20 years or older. From a simple random sample of 45 women, the researcher obtains a sample mean height of 63.9 inches.

$$\text{Statistic} = \text{sample mean height}$$

$$\overline{X} = 63.9$$

$$\text{Parameter} = \text{mean height of all women, 20+}$$

$$= \mu$$

Example: An education official wants to estimate the proportion of adults aged 18 or older who had read at least one book during the previous year. A random sample of 1006 adults aged 18 or older is obtained, and 835 of those adults had read at least one book during the previous year.

statistic = proportion of adults who read at least one book in the sample

= sample proportion

$\hat{p} = 835/1006 \approx 0.83$ or 83%

Parameter = p = proportion of all adults who read ...