Chapter 11.a - Randomness and Simulation

1) Test Handbacks and Corrections
2) Part II - Part III Transition
3) A little light reading to begin
4) Notes: Creating "Random" Simulations
4) Reading/Assignment Time [USE IT!!]

Read Chapter 11, Pg. 255-257
Test Corrections – AP Statistics

Test corrections allow you to earn back up to one half of the points you missed on every test. In order to earn the maximum amount of credit, you must do the following things for each question.

• Identify in writing what your mistakes are.
This may include a lack of understanding of the question, operational errors, faulty solving method, or something else. “I was clueless” is not an acceptable answer. Your errors need to be explained.

• Indicate in writing how to solve the problem.
Explain in a few words the process you will use to solve the problem.

• Work out the problem showing step-by-step detail, arriving at the correct solution.
Your solution must be correct in every way. (Fractions reduced, like term combined, radicals rationalized, etc.)

• No credit is given for an incorrect solution.

• Label each question and indicate the number of points lost for each question (i.e.: I lost 3 points on question #4)

Lingering Questions from Part II
Coin Tossing

- Is a coin's outcome random and fair?

- How many times should we flip it to determine if it is fair?
  - would 3 heads in a row make you think it is an unfair coin?
  - would 7 of 10 heads make you think it is an unfair coin?

- What if we toss the coin 100 times?
  - does 54 heads seem like a reasonable amount of variation?
  - would 60 heads make you think it is an unfair coin?
  - would 95 heads make you think it is an unfair coin?

- What would it take to convince you that it is an unfair coin?
  - write down a (# of heads) that would convince you

Building a Simulation

1. Identify the component to be repeated
2. Explain how you will model the component's outcome
3. Explain how you will combine the components into a trial
4. Clearly state the response variable
5. Run several trials
6. Collect and summarize results of all the trials (statistic?)
7. State your conclusion

Component
- smallest basic event you are simulating

Trial
- sequence of events that constitutes a "simulated answer"
Suppose a basketball player has an 80% free throw success rate. Use random numbers to simulate how many free throws he will make before missing.

Component: 1 free throw - use a random number table. If 0-7 is a make, 8 and 9 are a miss.

Trial: A string of free throws until a miss.

Response Variable: # of makes before a miss.

Statistic: Arg # of makes.
Assignment (Due Monday, 11/16)

1) Read Chapter 11, Pg. 258-260a

2) Pg. 265, #1-3, 6, 7, 11, 12, 13, 9, 15, 17, 18

3) Test Corrections due Monday (Nov 23)

4) Unit 11 IT is coming up shortly