

Week 2 Study Notes

Perhaps sometimes you are tempted by thoughts of winning millions in the lottery, or going to Las Vegas and "beating" the casinos. Maybe, like many others, you enjoy a day at the dog or horse track, betting a few races, enjoying the spectacle, and feeling overjoyed about coming home with a few extra dollars. Or, maybe the once-a-month friendly poker game with friends is a non-threatening, enjoyable evening of fun. This week, Chapter 4 will give you some insights into the probability of such events and how you can easily determine some outcomes.

Once you have determined the probability of an event happening or its impossibility, you have some basis for making an educated guess. We all use these educated guesses or hunches from time to time, sometimes without basis in fact. Now with your newfound statistical knowledge these educated guesses will be less prone to error.

If you like to picture your mathematics, you might get clearer pictures drawing Venn diagrams, or you might actually experiment with cards, dice, or coins. There are many hands-on ways in Chapter 4 in which the concepts can become easier to understand. Take the time to try a few.

The definitions in this chapter are not as commonplace as the ones in previous chapters. This does not make them foreign to you, however. **Factorial** is a concept you may have learned in grade school and may have forgotten, although it comes in very handy sometimes in daily life, so a review of it is worthwhile. **Combination** is a word you use all the time but maybe not in the mathematical sense. You probably do a **permutation** almost every day also but may not recognize that the operation has a name. In addition to these old terms, you encounter some new ways to use the concepts as **rules**.

Knowing how and when to use these concepts will make your calculations more meaningful. One question you should ask yourself is whether the events are dependent or independent. The answer to that question will help you decide which rules to apply. This **sampling with and without replacement** is an important concept to understand.

A question for you this week (you don't have to answer it to anyone but yourself) is: Are you seeing ways in which this course is going to be of help in your life and/or work? The insights these chapters have been giving you should be strong enough that you are eagerly looking forward to the remainder of the class. Knowledge is power and you already have some very valuable keys to unlocking the doors to your future success.