

Survey of Mathematics

Ideas Behind the Math

I will be discussing Markov matrices and game theory. In Markov matrices it is important that you understand the properties of matrices. Once you have these properties understood you just need to understand the formula given. It is also important to understand that the numbers we use in our examples are found through estimations or probability. In the end we are looking to see how the populations move as time progresses. We are interested in seeing if the population becomes all urban or all rural or if it stabilizes.

In game theory you more need to understand the game presented than any mathematics. There is a formula to plug numbers into to get a probability but that is just plug and chug. You more need to be able to understand the theory behind the probability found and then the intuition needed. You need to be able to reason why certain outcomes may occur or may not occur.

Why Important to Mathematics

Markov matrices are important in mathematics because we learn how matrices can be used in real life. We know all sorts of properties and how they work but to put them to practical use is really what is important. Markov matrices show us how we can use percentages to find our predictions.

Game theory is interesting because we can look at the equation Blackwell uses to find probability but then think logically and see how the two contradict. This shows the limitations of mathematics. Mathematicians and Scientist are always looking for equations and theories to explain everything in the universe yet they have yet to find one for these games.

Importance to Real Life

In both of these topics we are dealing with probability. Probability is important in real life activities. Markov matrices are used in predicting how situations will pan out. People can be interested to see how two animals will interact if put together or people could be interested in how populations

migrate. Markov matrices help people to be able to predict the future so they can plan ahead.

Game theory is used in economics with the stock market, mathematics, statistics, political science, and psychology. Game theory is a very interesting field because no matter how much math you do there is always that chance that what you predict will happen will not. For instance in the stock market you watch a stock and you notice the trend. From this trend you make a prediction but you will never know until you take the chance if you were right or wrong.