
Unit 4 Probability

Unit Overview: This unit introduces the student to the concepts and vocabulary of basic probability. The material learned in this section will be used as justification for techniques in later chapters. Specifically the definition of simple random samples and the analysis of two way contingency tables.

Lesson 4:1 Day 1 Probability Vocabulary and definitions

Standards Addressed:

Describe, complete, extend, analyze, generalize, and create a wide variety of patterns, including iterative and recursive patterns such as Pascal’s Triangle.

Demonstrate an understanding of the binomial theorem and use it in the solution of problems.

Use combinatorics (e.g. “fundamental counting principal,” permutations, and combinations) to solve problems, in particular, to compute probabilities of compound events. Use technology as appropriate.

Objectives: Students will be able to:

Recite and explain the basic definition of probability

List the elements in the sample space for simple events

Define a probability experiment

Understand the various definitions of probability; relative frequency, classical, personal assessment.

Starter Activity:

Procedure/ Lecture Support:

Students have experienced many of the concepts discussed in this chapter before in other classes.

The difficulties will emerge as the students solidify their appreciation of probability as a ratio. It should become clearer that the probability of an event must be between zero and a positive one.

The discussion of Mendel’s experiments with peas is designed to open up conversations of connections between this class and their other science classes.

Some leading questions that can open up the discussion: “How many babies are going to be born in the United States today?”

“How many automobiles will be sold in the U.S. during June of this year?”

Unit 4 Probability Daily Lesson Plans

These are questions that follow the laws of chance; They are unknown in the short term but a pattern becomes evident when examined over a long period of time.

Assessment:

Accountable talk

Successful completion of classroom exercises

Homework

Chapter test

Lesson 4:1 Day 2 Probability

Standards Addressed:

Describe, complete, extend, analyze, generalize, and create a wide variety of patterns, including iterative and recursive patterns such as Pascal's Triangle.

Demonstrate an understanding of the binomial theorem and use it in the solution of problems.

Use combinatorics (e.g. "fundamental counting principal," permutations, and combinations) to solve problems, in particular, to compute probabilities of compound events. Use technology as appropriate.

Objectives: Students will be able to:

Recite and explain the basic definition of probability

List the elements in the sample space for simple events

Define a probability experiment

Understand the various definitions of probability; relative frequency, classical, personal assessment.

Starter Activity:

Procedure/ Lecture Support:

Student Activity 4.1

Assessment:

Accountable talk

Successful completion of classroom exercises

Homework

Chapter test