

CHAPTER OVERVIEW

7: Normal Distribution

Most of the statistical analyses presented in this book are based on the bell-shaped or normal distribution. The introductory section defines what it means for a distribution to be normal and presents some important properties of normal distributions. The interesting history of the discovery of the normal distribution is described in the second section. Methods for calculating probabilities based on the normal distribution are described in Areas of Normal Distributions. The Varieties of Normal Distribution Demo allows you to enter values for the mean and standard deviation of a normal distribution and see a graph of the resulting distribution. A frequently used normal distribution is called the Standard Normal distribution and is described in the section with that name. The binomial distribution can be approximated by a normal distribution. The section Normal Approximation to the Binomial shows this approximation. The Normal Approximation Demo allows you to explore the accuracy of this approximation.

[7.1: Introduction to Normal Distributions](#)

[7.2: History of the Normal Distribution](#)

[7.3: Areas Under Normal Distributions](#)

[7.4: Varieties Demonstration](#)

[7.5: Standard Normal Distribution](#)

[7.6: Normal Approximation to the Binomial](#)

[7.7: Normal Approximation Demonstration](#)

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[7.E: Normal Distribution \(Exercises\)](#)

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