Properties of a Normal Distribution

Recall from the previous chapter that continuous random variables can take on any value within an interval of values of a certain set. Some examples of continuous random variables are height in centimeters, mass in kilograms, time in minutes, and temperature in degrees Celsius. Continuous random variables follow continuous probability distributions. One special continuous

distribution called the normal distribution will be discussed in this lesson. This distribution is important because most significant theories and applications in statistical inference are based on the existence of a normal distribution.

The normal distribution is a probability density function for a continuous random variable. This distribution is also known as the *Gaussian distribution* in honor of the German mathematician Johann Carl Friedrich Gauss (1777–1855), who derived its equation.