Here are three references to the accepted notation N[mean, variance]. This is at odds with your textbook which uses N[mean, standard deviation]. Use the accepted notation and understand that the text is uniquely different.

Some Misconceptions about the Normal Distribution

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As part of a Six Sigma training course, practitioners are introduced to arguably the most important probability distribution in statistics: the *normal* distribution. Statistical procedures are often based upon the assumption that data collected for an analysis are drawn from a normal distribution.

A normal distribution is typically expressed in statistical shorthand as $N(\mu, \sigma^2)$. For example, a normal distribution with a mean of 12 and standard deviation of 5 is written N(12, 25).

Properties

Some properties of the normal distribution:

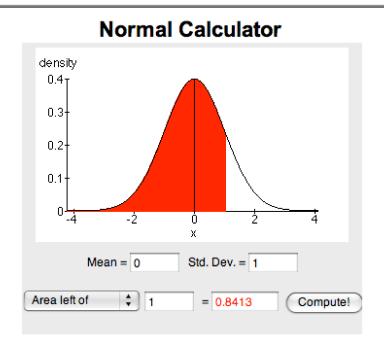
- 1. If $X \sim N(\mu, \sigma^2)$ and a and b are real numbers, then $aX + b \sim N(a\mu + b, (a\sigma)^2)$ (see expected
- 2. If $X \sim N(\mu_X, \sigma_X^2)$ and $Y \sim N(\mu_Y, \sigma_Y^2)$ are independent normal random variables, then:
 - Their sum is normally distributed with $U=X+Y\sim N(\mu_X+\mu_Y,\sigma_X^2+\sigma_Y^2)$ (proof). Thus t

Normal distribution is denoted as $N(\mu, \sigma^2)$, sometimes the letter N is written in calligraphic font (typed variable X is distributed normally with mean μ and variance σ^2 , we write

$$X \sim \mathcal{N}(\mu, \sigma^2)$$

If you go to this site you can use the applet as you learn the z table.

AM http://www.stat.tamu.edu/~west/applets/normaldemo.html



How it works: The calculator above takes the place of the traditional textbook table. The calculator can be used in two ways. To find Prob<Z for a Z score, enter a value in the "Area left of" box and hit "Return". The answer is given in red in the "=" box. To find the Z score for a probability, enter a value under in the "=" box and hit "Return". The Z score is given in the "Area left of" box. In each case the graphic provides a visual display of the probability in red. Note that this calculator works for any values of the mean and standard deviation. When thinking in terms of Z scores, you should use 1 as the standard deviation and 0 as the mean.