cy Histogram for
ights of Men
Class Intervals



Height
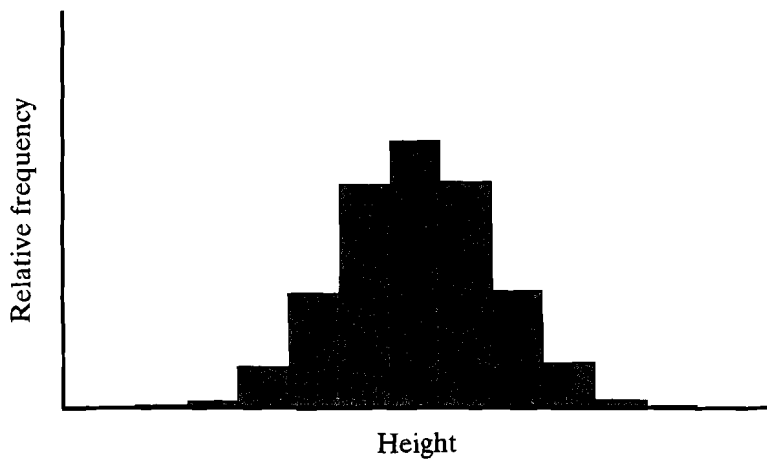
Figure 6.2.3 shows a relative frequency histogram for the same population of men, but with class intervals of width one inch.

cy Histogram for
ights of Men
lass Intervals



Height

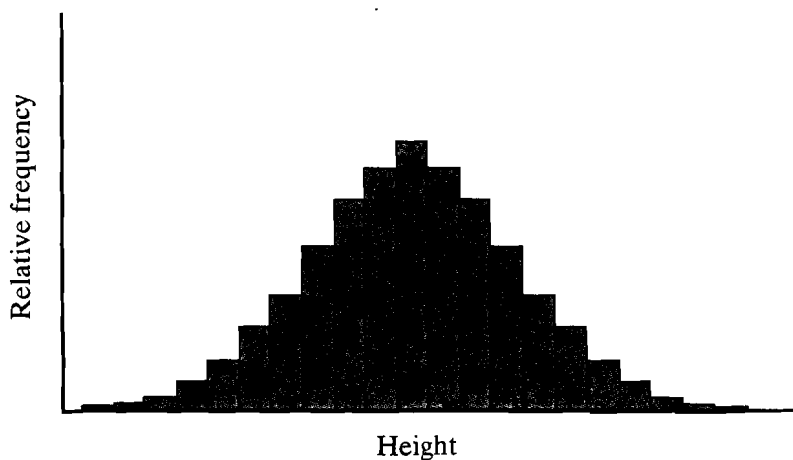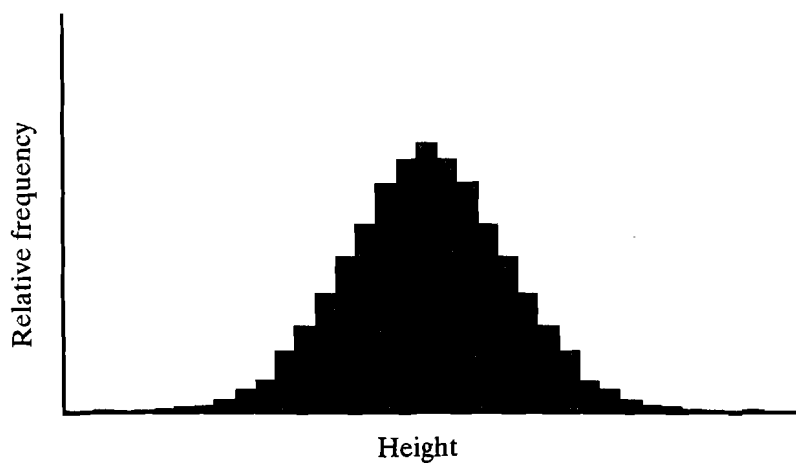Figure 6.2.4 shows a relative frequency histogram for the same population of men, but with class intervals of width one-half inch.

cy Histogram for
ghts of Men
nch Class



Height

4

# Density curve – a curve that describes the overall pattern of a distribution

- total area under a probability density curve is 1.0

- the curve never drops below the horizontal axis
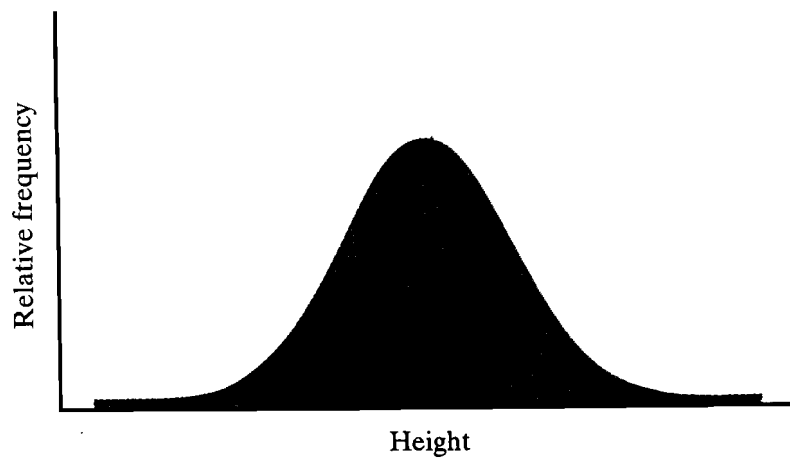
**FIGURE 6.2.5**
Proportion of Values $< \mu - z\sigma$
Is Equal to Proportion of Values
$> \mu + z\sigma$



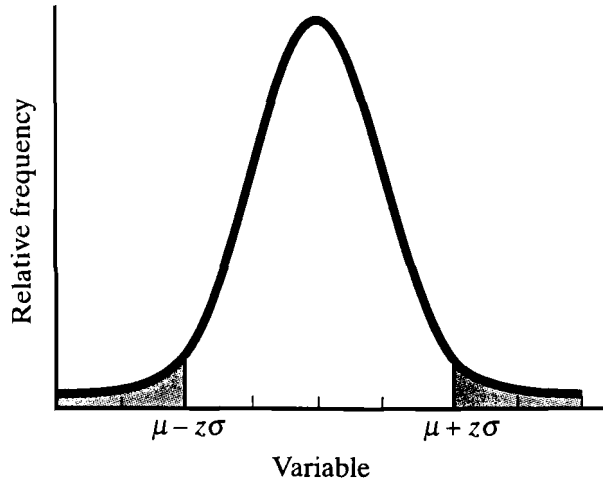**FIGURE 6.2.6**
Proportion of Values $< \mu + z\sigma$
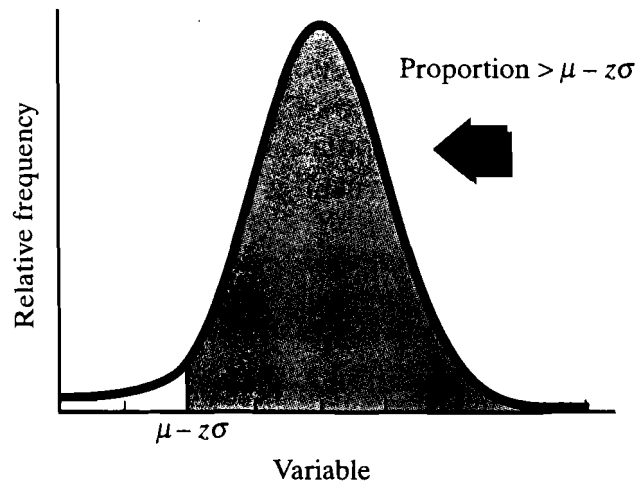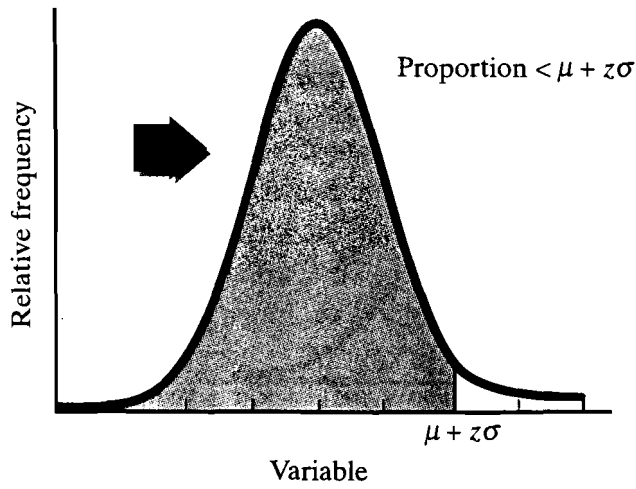Is Equal to Proportion of Values
$> \mu - z\sigma$

**FIGURE 6.2.7**

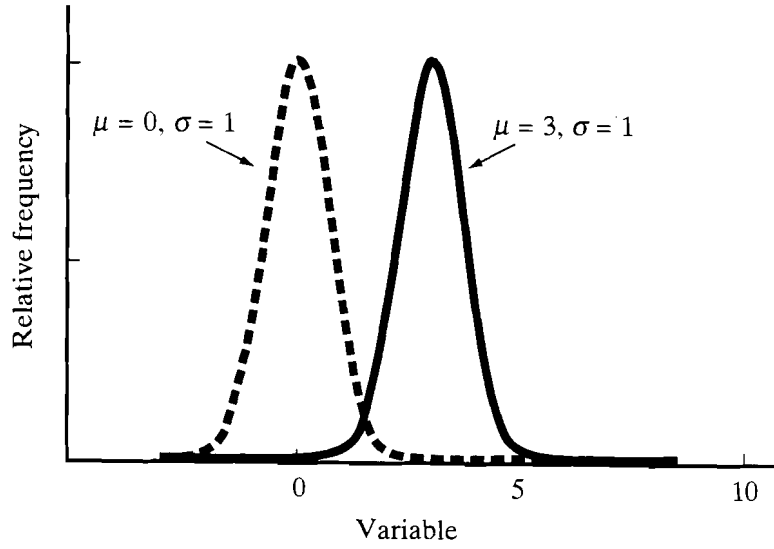Two *Normal* Populations with the Same Standard Deviations but Different Means
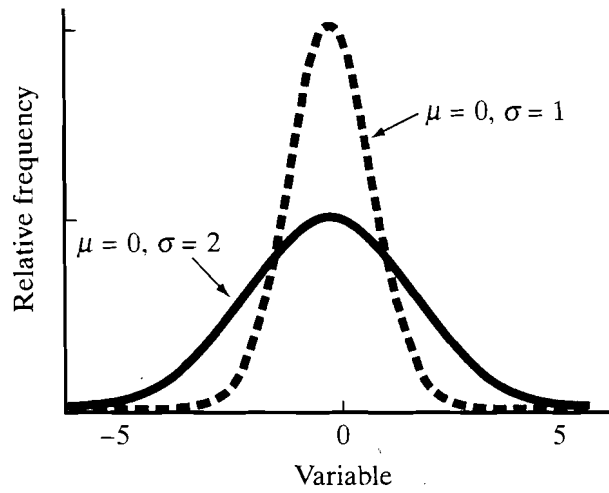


**FIGURE 6.2.8**

Two *Normal* Populations with the Same Means but Different Standard Deviations

# The standard normal distribution

- The *standard normal distribution* is the normal distribution with

  $- \mu = 0$

  $- \sigma = 1$

- The name Z is often used for a variable that has the standard normal distribution.

For this particular normal distribution,
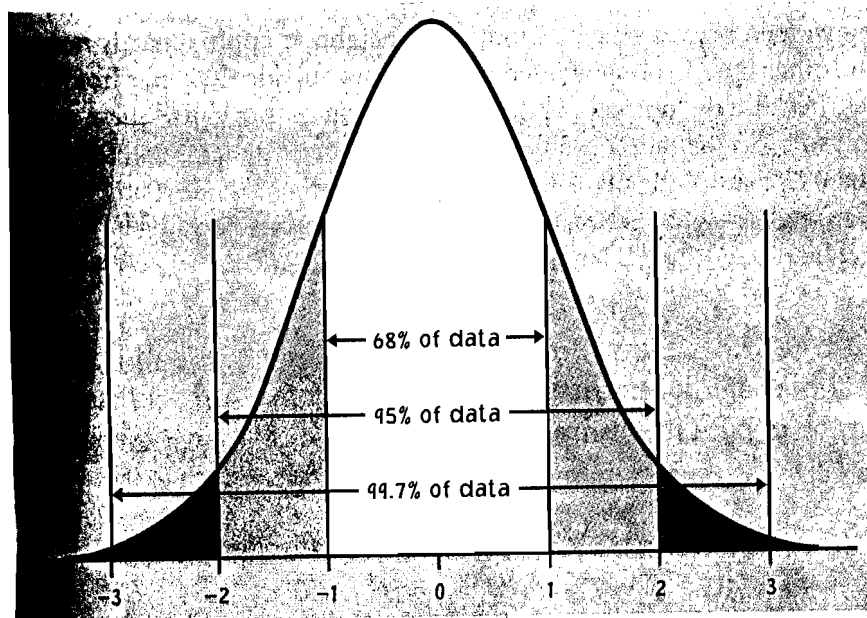


**Figure 1.20** *The 68–95–99.7 rule for normal distributions.*