

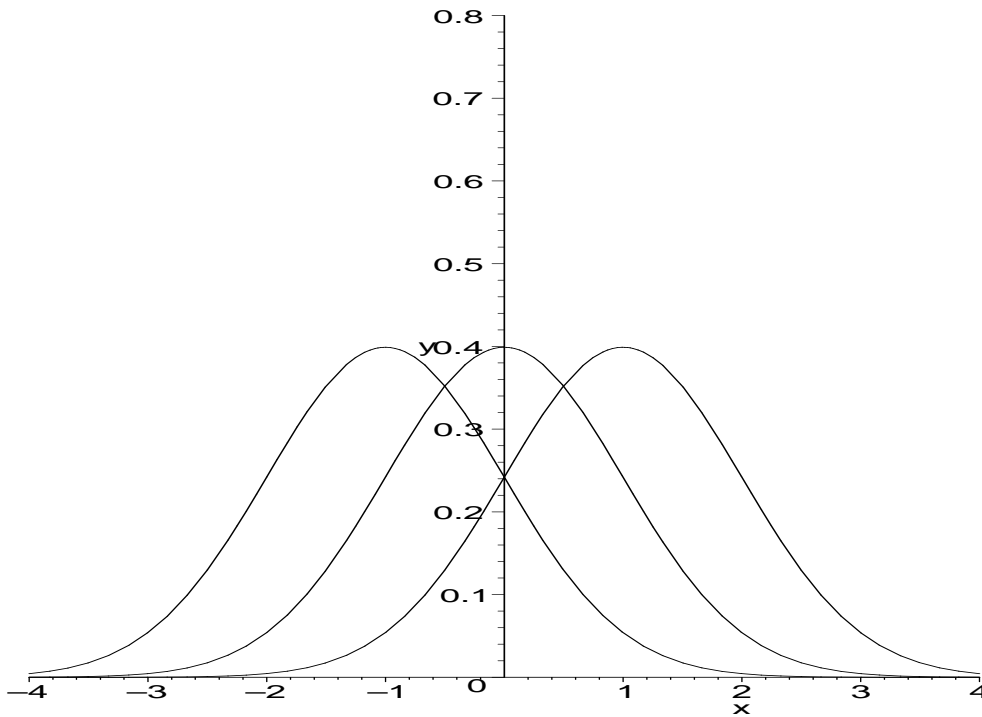
Math 26L.04
Normal Distributions

For $-\infty < t < \infty$, the normal density function is

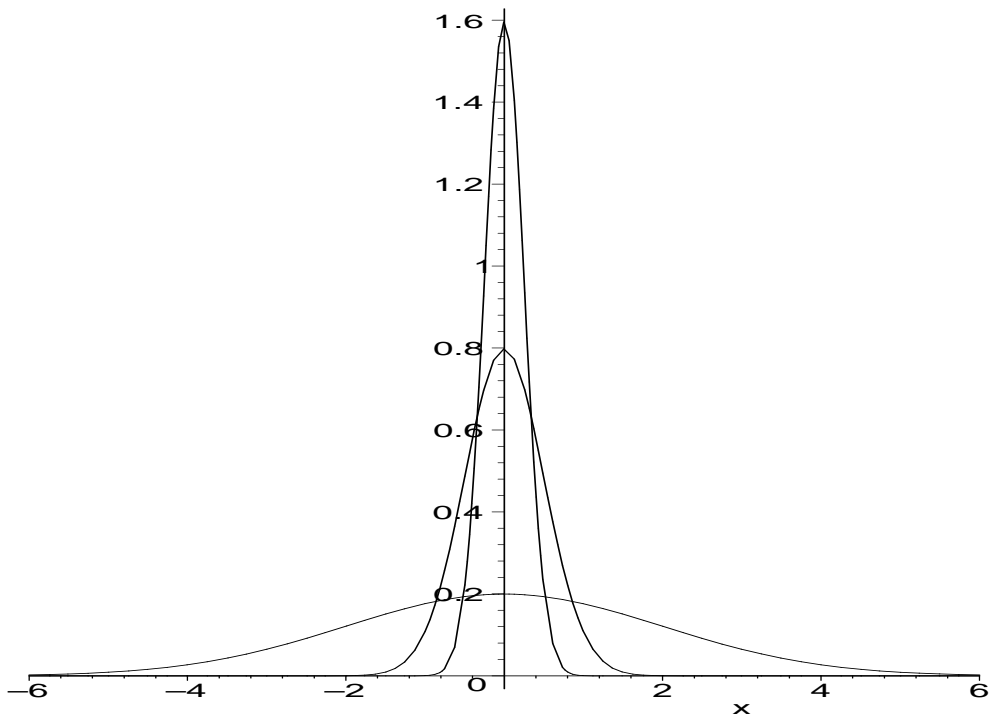
$$p(t) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(t-\mu)^2}{2\sigma^2}}$$

where μ is the mean and $\sigma > 0$ is the standard deviation (or spread).

This first graph shows three normal density curves. All three have $\sigma = 1$, but one has $\mu = 0$, one has $\mu = 1$, and one has $\mu = -1$.



This second graph shows three normal density curves. All three have $\mu = 0$, but one has $\sigma = 2$, one has $\sigma = 1/2$, and one has $\sigma = 1/4$.



This third graph also shows three normal density curves. However, the first curve has $\mu = 0$ and $\sigma = 2$, the second curve has $\mu = -1$ and $\sigma = 1/2$, and the third curve has $\mu = 1$ and $\sigma = 1/4$.

