Normal Randon Variables One of the most used random variables
in probability theory, largely because of the central limit theorem,
but also because we want to measure have distributions that are
approximately normal distributed.
Say X is a Normal Random Variable with mean 14x and variance of
by writing X ~ N(µx, ox2).
In particular, when $\mu_{x}=0$ and $\sigma_{x}^{2}=1$ we say X is a Standard normal
random variable. This is the kind of random variable for which we
provide a chart of the values of the CDF. Any other kind of norm
random variable must be converted to Standard normal before we
The standard normal random variable density is $f_X(x) = \frac{1}{\sqrt{2\pi}} e^{-x/2}$ For all
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More agnerally if X is any normal renden variable with mean my and

variance σ_X^2 , then X has density $f_X(x) = \frac{e^{-(x-\mu_X)^2/(2\sigma_X^2)}}{\sqrt{2\pi\sigma_X^2}}$, for all real x, Notice when $\mu_x=0$ and $\sigma_x^2=1$, this simplifies to the form mentioned earlier.