## 213L5: Continuous Probability Distribution

June 16, 2020 10:21 AM



[Nom Rand. Var]

POF N(
$$\mu$$
,  $\sigma^2$ )

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

P( $\mu$ - $\sigma$  <  $\times$  <  $\mu$ + $\sigma$ ) = 0.6827

P( $\mu$ - $\sigma$  <  $\times$  <  $\mu$ + $\sigma$ ) = 0.9595

P( $\mu$ - $\sigma$  <  $\times$  <  $\mu$ + $\sigma$ ) = 0.9973

(Std. NormRand Var.)  $Z = \frac{X-\mu}{\sigma}$ 

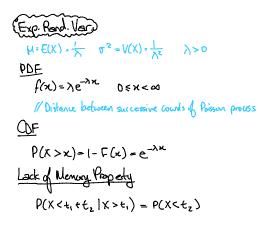
M=0  $\sigma^2$ =1

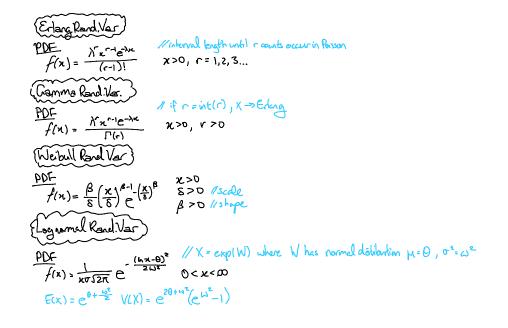
PDF

Standard:  $\sigma^2$  & Appendix I

CDF

 $\sigma$  ( $\sigma$ ) =  $\rho$ ( $\sigma$ ) =  $\rho$ ( $\sigma$ ) =  $\rho$ ( $\sigma$ )





- 1. Continuous Random Variables
- 2. Probability Distribution & PDF
- 3. Cumulative Distribution Functions
- 4. Mean & Variance of Continuous Random Variable
- 5. Continuous Uniform Distribution
- 6. Normal Distribution
- 7. Normal Approximation to Binomial & Poisson Distributions
- 8. Exponential Distribution
- 9. Erlang & Gamma Distribution
- 10. Weibull Distribution
- 11. Lognormal Distribution