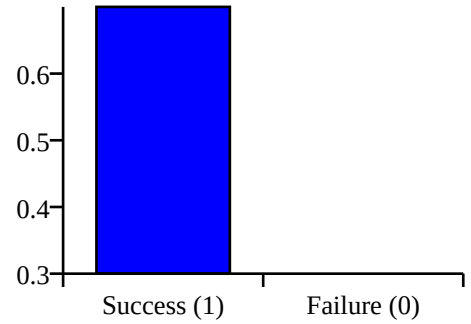
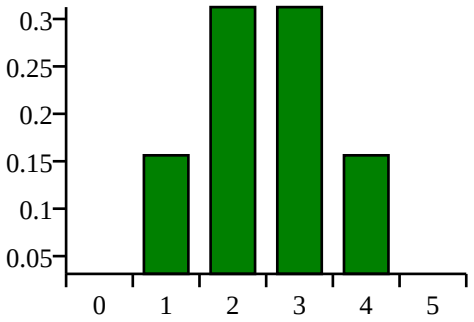
Probability Revision Sheet (with All Distributions & Diagrams)

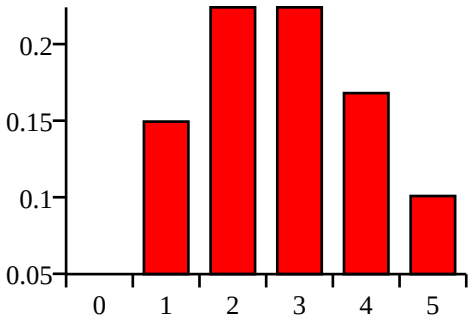
Bernoulli Distribution



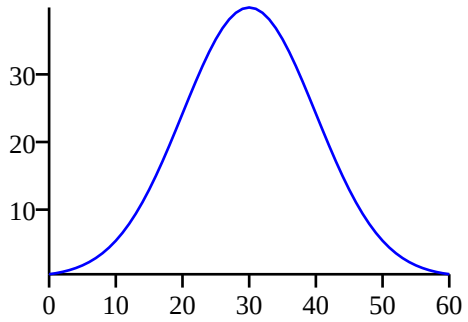
Binomial Distribution (n=5, p=0.5)



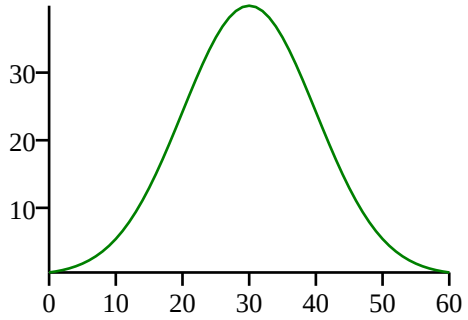
Poisson Distribution (λ=3)



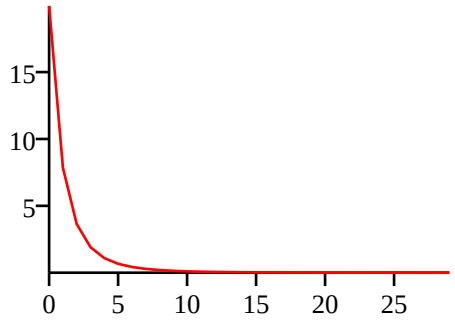
Normal Distribution



Standard Normal Distribution (mean=0, std=1)



Log Normal Distribution



Summary of Distributions

Distribution	Type	Formula	Mean	Variance	When to Use
Bernoulli	Discrete	p^x(1-p)^(1-x)	p	p(1-p)	Single trial
Binomial	Discrete	C(n,k)p^k(1-p)^(n-k)	np	np(1-p)	Fixed trials
Poisson	Discrete	λ^k e^-λ / k!	λ	λ	Rare events

Normal	Continuous	$(1/\sqrt{(2\pi\sigma^2)})e^{(-(x-\mu)^2/2\sigma^2)}$	μ	σ^2	Symmetric data
Std Normal	Continuous	$Z=(x-\mu)/\sigma$	0	1	Hypothesis testing
Log-Normal	Continuous	$\ln(X) \sim N(\mu,\sigma^2)$	-	-	Skewed positive