

Binomial Distributions

Conditions	Key Phrases	Probability	Calculator Input		Equations	
<ul style="list-style-type: none"> • Simple Random Sample • Independent Trials • Only Two Possible Outcomes • Probability of Success = p • Number of Trials = n 	Exactly x	$P(X = x)$	<ul style="list-style-type: none"> • $2^{nd} > Vars$ • A: binompdf 	binpdf	n,p,x	<ul style="list-style-type: none"> • $\mu = np$ • $\sigma^2 = np(1 - p)$ • $\sigma = \sqrt{np(1 - p)}$
	<ul style="list-style-type: none"> • At most x • x or fewer • x or less • No more than x 	$P(X \leq x)$	<ul style="list-style-type: none"> • $2^{nd} > Vars$ • B: binomcdf 	bincdf	n,p,x	
	<ul style="list-style-type: none"> • Less than x • Fewer than x 	$P(X < x)$		bincdf	n,p,(x-1)	
	<ul style="list-style-type: none"> • Greater than x • More than x 	$P(X > x)$		1-bincdf	n,p,x	
	<ul style="list-style-type: none"> • At least x • x or more • No less than x 	$P(X \geq x)$		1-bincdf	n,p,(x-1)	

