

Discrete Models

Distribution	Parameters	pmf	Mean	Variance	R
Binomial	n, p	$\binom{n}{p} p^x q^{n-x}$	np	npq	binom
Geometric	p	pq^{x-1}	$\frac{1}{p}$	$\frac{q}{p^2}$	geom

Continuous Models

Distribution	Parameters	pdf	Mean	Variance	R
Uniform	a, b	$\frac{1}{b-a}$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$	unif
Exponential	λ	$\lambda e^{-\lambda x}$	$1/\lambda$	$1/\lambda^2$	exp
Normal	μ, σ	$\frac{1}{\sqrt{2\pi}\sigma^2} e^{-(x-\mu)^2/(2\sigma^2)}$	μ	σ^2	norm

Notes:

1. The geometric model above differs from **R** in that **geom** only counts the number of failures until the first success rather than the number of trials.
2. If **p** is affixed to the name in **R** of the random variable (as in **pbinom**), the cdf is computed:

pbinom(q,n,p) computes $P(X \leq q)$.

3. If **d** is affixed to the name in **R**, the pmf or pdf is computed:

dbinom(x,n,p) computes $P(X = x)$.