

Distribution	Characteristic	Value
Binomial	Probability density (mass) function	$f(x) = \binom{n}{x} p^x (1-p)^{n-x}$ <i>dbinom</i> (x, n, p)
	Cumulative Distribution function	$F(x) = \sum_{k=0}^x \binom{n}{k} p^k (1-p)^{n-k}$ <i>pbinom</i> (x, n, p)
	Expected value $E(X)$	np
	Variance $V(X)$	$np(1-p)$
Geometric	Probability density (mass) function	$f(x) = p(1-p)^x$ <i>dgeom</i> (x, p)
	Cumulative Distribution function	$F(x) = \sum_{k=0}^x p(1-p)^k$ <i>pgeom</i> (x, n, p)
	Expected value $E(X)$	$\frac{1-p}{p}$
	Variance $V(X)$	$\frac{1-p}{p^2}$
Negative Binomial	Probability density (mass) function	$f(x) = \binom{x+r-1}{r-1} p^r (1-p)^x$ <i>dnbinom</i> (x, r, p)
	Cumulative Distribution function	$F(x) = \sum_{k=0}^x \binom{x+r-1}{r-1} p^r (1-p)^k$ <i>pnbinom</i> (x, r, p)
	Expected value $E(X)$	$\frac{r(1-p)}{p}$
	Variance $V(X)$	$\frac{r(1-p)}{p^2}$
Poisson	Probability density (mass) function	$f(x) = \frac{\lambda^x e^{-\lambda}}{x!}$ <i>dpois</i> (x, λ)
	Cumulative Distribution function	$F(x) = \sum_{k=0}^x \frac{\lambda^k e^{-\lambda}}{k!}$ <i>ppois</i> (x, λ)
	Expected value $E(X)$	λ
	Variance $V(X)$	λ