	PMF/PDF $f(x)$	CDF $F(x)$	Mean	Variance
Uniform(a, b)	$\frac{1}{b-a}, b > a$	$\frac{x-a}{b-a}$	$\frac{a+b}{2}$	$\frac{(a-b)^2}{12}$
Bernoulli(p)	$\begin{cases} p, x = 1 \\ 1-p, x = 0 \end{cases}$	$\begin{cases} 0, x < 0 \\ 1-p, 0 \leq x < 1 \\ 1, x \geq 1 \end{cases}$	p	$p(1-p)$
Binomial(n, p)	$\binom{n}{x} p^x (1-p)^{n-x}$	$\sum_{k=0}^{x} f(k)$	np	$np(1-p)$
Negative Binomial (r, p)	$\binom{k+r-1}{r-1} p^{r-1}(1-p)^k p$	$\sum_{k=0}^{x} f(k)$	$\frac{r(1-p)}{p}$	$\frac{r(1-p)}{p^2}$
Geometric (n, p)	$(1-p)^{x-1}p$	$1-(1-p)^x$	$\frac{1}{p}$	$\frac{1-p}{p^2}$
Poisson (λ)	$\frac{\lambda^k}{k!} e^{-\lambda}$	$e^{-\lambda} \sum_{i=0}^{k} \frac{\lambda^i}{i!}$	λ	λ
Exponential (λ)	$\lambda e^{-\lambda x}$	$1 - e^{-\lambda x}$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$
Normal (μ, σ)	$\frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{(x-u)^2}{2\sigma^2}}$	$\frac{1}{2}\left[1 + erf\left(\frac{x-\mu}{\sigma\sqrt{2}}\right)\right]$	μ	σ^2
	$\frac{1}{\lvert\Sigma\rvert^{1/2}\,(2\pi)^{p/2}} e^{-\frac{1}{2}(x-u)^T\Sigma^{-1}(x-u)}$			
Beta (α, β)	$\frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)}$		$\frac{\alpha}{\alpha+\beta}$	$\frac{\alpha\beta}{(\alpha+\ \beta)^2(\alpha+\beta+1)}$

Gamma function $\Gamma(n) = \int_0^\infty x^{z-1} e^{-x}\, dx = (n-1)!$

Beta function: $B(\alpha, \beta) = \frac{\Gamma(\alpha)\Gamma(\beta)}{\Gamma(\alpha+\beta)}$

Recursive property: $\Gamma(1) = 1, \Gamma(n+1) = n\Gamma(n)$