Distribution	Parameters	PMF/PDF	$\mathsf{E}[X]$	$\mathsf{Var}(X)$	Support
Binomial(n,p)	$n \in \{0,1,2,\ldots\}$ $p \in [0,1]$	$P(X=x) = \binom{n}{x} p^x (1-p)^{n-x}$	np	$np(1-p)$	$x \in \{0,1,2,\ldots\}$, # of successes
Poisson(λ)	$\lambda > 0$ (rate)	$P(X=x) = \frac{\lambda^x e^{-x}}{x!}$	λ	λ	$x \in \{0,1,2,\ldots\}$, counts
Uniform(a,b)	$a < b \in \mathbb{R}$	$f_X(x) = \frac{1}{b-a}$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$	$x \in (a,b)$
Normal(μ,σ^2)	$\mu \in \mathbb{R}$ $\sigma^2 > 0$	$f_X(x) = \frac{1}{\sqrt{2\pi\sigma^2}} \exp\{-\frac{1}{2\sigma^2}(x-\mu)^2\}$	μ	σ^2	$x \in \mathbb{R}$
Beta(α,β)	$\alpha > 0$ $\beta > 0$	$f_X(x) = \frac{\Gamma(\alpha+\beta)}{\Gamma(\alpha)\Gamma(\beta)} x^{\alpha-1}(1-x)^{\beta-1}$	$\frac{\alpha}{\alpha+\beta}$	$\frac{\alpha\beta}{(\alpha+\beta)^2(\alpha+\beta+1)}$	$x \in [0,1]$
Gamma(α,β)	$\alpha > 0$ (shape) $\beta > 0$ (rate)	$f_X(x) = \frac{\beta^\alpha}{\Gamma(\alpha)} x^{\alpha-1} e^{-\beta x}$	$\frac{\alpha}{\beta}$	$\frac{\alpha}{\beta^2}$	$x \in \mathbb{R}^+$
Exponential(λ)	$\lambda > 0$ (rate)	$f_X(x) = \lambda e^{-\lambda x}$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$	$x \in [0,\infty)$
Student's t_ν	$\nu > 0$ (d.f.)	$f_X(x) = \frac{\Gamma((\nu+1)/2)}{\sqrt{\nu\pi}\,\Gamma(\nu/2)} \left(1 + \frac{x^2}{\nu}\right)^{-(\nu+1)/2}$	0, if $\nu > 1$ DNE o.w.	$\frac{\nu}{\nu-2}$, if $\nu > 2$ ∞, if $1 < \nu \leq 2$ DNE o.w.	$x \in \mathbb{R}$
Chi-Squared(k)	$k \in \{1,2,\ldots\}$ (d.f)	$f_X(x) = \frac{1}{\Gamma(k/2)} x^{k/2-1} e^{-x/2}$	k	$2k$	$x \in (0,\infty)$, if $k = 1$ $x \in [0,\infty)$ o.w.