Name	PMF	Mean	Variance	MGF
Ber(p)	$\mathbb{P}(X=1)=p, \mathbb{P}(X=0)=1-p$	p	$p(1-p)$	$e^t p + (1-p)$
Bin(n,p)	$\binom{n}{x} p^x (1-p)^{n-x}$ for $x=0,1,\dots,n$	np	$np(1-p)$	$(e^t p + (1-p))^n$
Geom(p)	$p(1-p)^{x-1}$ for $x=1,2,\dots$	$\frac{1}{p}$	$\frac{1-p}{p^2}$	$\frac{e^t p}{1-(1-p)e^t}$ for $t < -\ln(1-p)$
NegBin(r,p)	$\binom{x-1}{r-1} p^r q^{x-r}$ for $x=r,r+1,\dots$	$\frac{r}{p}$	$\frac{r(1-p)}{p^2}$	$\left(\frac{e^t p}{1-(1-p)e^t}\right)^r$ for $t < -\ln(1-p)$
HG(N_1,N_2,n)	$\frac{\binom{N_1}{x}\binom{N_2}{n-x}}{\binom{N_1+N_2}{n}}$ for $\max\{0, n-N_2\} \le x \le \min\{n, N_1\}$	$m\frac{N_1}{N_1+N_2}$	$n \cdot \frac{N_1 N_2}{(N_1+N_2)^2} \cdot \frac{N_1+N_2-n}{N_1+N_2-1}$	
Poisson(λ)	$\frac{e^{-\lambda}\lambda^x}{x!}$ for $x=0,1,\dots$	λ	λ	$e^{\lambda(e^t-1)}$
Uniform(a,b)	$\frac{1}{b-a}$ for $x \in (a,b)$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$	$\frac{e^{tb}-e^{ta}}{t(b-a)}$
Normal(μ,σ^2)	$\frac{1}{\sqrt{2\pi}\sigma} e^{-(x-\mu)^2/2\sigma^2}$ for $x \in (-\infty,\infty)$	μ	σ^2	$e^{\mu t + \frac{\sigma^2}{2}t^2}$
Exp(λ)	$\lambda e^{-\lambda x}$ for $x > 0$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$	$(1-\frac{t}{\lambda})^{-1}$ for $t < \lambda$
Gamma(a,λ)	$\frac{\lambda^a x^{a-1} e^{-\lambda x}}{\Gamma(a)}$ for $x > 0$	$\frac{a}{\lambda}$	$\frac{a}{\lambda^2}$	$(1-\frac{t}{\lambda})^{-a}$ for $t < \lambda$

Geometric series	$\sum_{k=0}^{N} ar^k = \frac{a(1-r^{N+1})}{1-r}$ for $r \neq 1$, $\quad \sum_{k=0}^{\infty} ar^k = \frac{a}{1-r}$ for $\lvert r \rvert < 1$
Binomial Theorem	$(a+b)^n = \sum_{k=0}^{n} \binom{n}{k} a^k b^{n-k}$
Power series for e^x	$e^x = \sum_{k=0}^{\infty} \frac{x^k}{k!}$