		pmf,pdf	cdf	E	Var	Mode	MGF
Bernoulli		$p, (1-p)$		p	pq	0;0,1;1	$q+pe^t$
Binomial $B(n,p)$	# of success in n trials	$\binom{n}{k}p^k(1-p)^{n-k}$		np	$np(1-p)$	$\lfloor np \rfloor, \lceil np \rceil$	$(q+pe^t)^n$
Hyper-Geometric (N,n,K)	k success in n draws, in population N with K success	$\frac{\binom{K}{k}\binom{N-K}{n-k}}{\binom{N}{n}}$		$n\frac{K}{N}$	$n\frac{K}{N}\frac{N-K}{N}\frac{N-n}{N-1}$	$\lfloor \frac{(n+1)(K+1)}{N+2} \rfloor$	
Geometric (p)	# of trials on which 1st success occurs	$(1-p)^{k-1}p$		$\frac{1}{p}$	$\frac{1-p}{p^2}$	1	$\frac{pe^t}{1-(1-p)e^t}$
Negative Binomial $NB(r,p)$	# of trials on which r-th success occurs	$\binom{k+r-1}{k}\cdot(1-p)^r p^k$		$\frac{pr}{1-p}$	$\frac{pr}{(1-p)^2}$	$\lfloor \frac{p(r-1)}{1-p} \rfloor$ if $r>1$	$(\frac{1-p}{1-pe^t})^r$
Poisson (λ)	# of success on an interval of time (0,t)	$\frac{\lambda^k e^{-\lambda}}{k!}$		λ	λ	$\lceil \lambda \rceil - 1, \lfloor \lambda \rfloor$	$\exp(\lambda(e^t-1))$
Discrete Uniform $unif\{a,b\}$		$n=b-a+1, \frac{1}{n}$	$\frac{\lfloor k \rfloor - a+1}{n}$	$\frac{a+b}{2}$	$\frac{(b-a+1)^2-1}{12}$	N/A	$\frac{e^{at}-e^{(b-1)t}}{n(1-e^t)}$
Continuous Uniform $unif(a,b)$		$\frac{1}{b-a}$	$\frac{x-a}{b-a}$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$	any value in (a,b)	$\frac{e^{tb}-e^{ta}}{t(b-a)}$ for $t \neq 1$
Exponential $(\lambda>0)$	time until 1st success	$\lambda e^{-\lambda x}$	$1-e^{-\lambda x}$	$\lambda^{-1}=\beta$	$\lambda^{-2}=\beta^2$	0	$\frac{\lambda}{\lambda-t}$, for $t<\lambda$
Gamma (α,β)	time untile α-th success	$\frac{\beta^\alpha}{\Gamma(\alpha)}x^{\alpha-1}e^{-\beta x}$		$\frac{\alpha}{\beta}$	$\frac{\alpha}{\beta^2}$	$\frac{\alpha-1}{\beta}$ for $\alpha \geq 1$	$(1-\frac{t}{\beta})^{-\alpha}$ for $t<\beta$
Chi-square (k)		$\frac{1}{2^{\frac{k}{2}}\Gamma(\frac{k}{2})}x^{\frac{k}{2}-1}e^{-\frac{x}{2}}$		k	$2k$	$maxk-2,0$	$(1-2t)^{-k/2}$
Normal $N(\mu,\sigma^2)$		$\frac{1}{\sqrt{2\pi}\sigma}e^{-\frac{(x-\mu)^2}{2\sigma^2}}$		μ	σ^2	μ	$\exp\{\mu t+\frac{1}{2}\sigma^2 t^2\}$
Beta (α,β)		$\frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)}$, $B(\alpha,\beta)=\frac{\Gamma(\alpha)\Gamma(\beta)}{\Gamma(\alpha+\beta)}$		$\frac{\alpha}{\alpha+\beta}$	$\frac{\alpha\beta}{(\alpha+\beta)^2(\alpha+\beta+1)}$	$\frac{\alpha-1}{\alpha+\beta-2}$	