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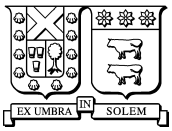
DMAT - UTFSM



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MAT041 - Probabilidad y Estadística

Formulario Distribuciones Discretas y Continuas

Distribución	Recorrido	$f_X(x)$	$E[X]$	$V[X]$	FGM
$\text{Ber}(p)$	$\{0,1\}$	$p^x(1-p)^{1-x}$	p	$p(1-p)$	$1-p+pe^t$
$\text{Bin}(n,p)$	$\{0,1,\ldots,n\}$	$\binom{n}{x}p^x(1-p)^{n-x}$	np	$np(1-p)$	$(1-p+pe^t)^n$
$\text{Geo}(p)$	$\{1,2,\ldots\}$	$p(1-p)^x$	$\frac{1}{p}$	$\frac{1-p}{p^2}$	$\frac{pe^t}{1-(1-p)e^t}$
$\text{BN}(r,p)$	$\{r,r+1,\ldots\}$	$\binom{x-1}{r-1}p^r(1-p)^{x-r}$	$\frac{r}{p}$	$\frac{r(1-p)}{p^2}$	$\left(\frac{pe^t}{1-e^t+pe^t}\right)^r$
$\text{Poisson}(\lambda t)$	$\{0,1,\ldots\}$	$\frac{e^{-\lambda t}(\lambda t)^x}{x!}$	λt	λt	$e^{\lambda(e^t-1)}$
$\text{U}(a,b)$	(a,b)	$\frac{1}{b-a}$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$	$\frac{e^{tb}-e^{ta}}{t(b-a)}$
$\text{Exp}(\lambda)$	$\mathbb{R}^+$	$\lambda e^{-\lambda x}$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$	$\frac{1}{1-t/\lambda}$
$\text{Gamma}(\alpha,\lambda)$	$\mathbb{R}^+$	$\frac{\lambda(\lambda x)^{\alpha-1}e^{-\lambda x}}{\Gamma(\alpha)}$	$\frac{\alpha}{\lambda}$	$\frac{\alpha}{\lambda^2}$	$\left(\frac{\lambda}{\lambda-t}\right)^\alpha$
$\text{N}(\mu,\sigma^2)$	$\mathbb{R}$	$\frac{1}{\sqrt{2\pi}\sigma}e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}$	μ	σ^2	$e^{t\mu+\sigma^2t^2/2}$