

Lois discrètes usuelles : formulaire

	Notation	Paramètres	Loi de X	$\mathbb{E}(X)$	$\mathbb{V}(X)$
Loi uniforme	$\mathcal{U}(\llbracket 1, n \rrbracket)$	$n \in \mathbb{N}^*$	$X(\Omega) = \llbracket 1, n \rrbracket$ $\forall k \in \llbracket 1, n \rrbracket, \mathbb{P}(\{X = k\}) = \frac{1}{n}$	$\frac{n+1}{2}$	$\frac{n^2-1}{12}$
	$\mathcal{U}(\llbracket a, b \rrbracket)$	$(a, b) \in \mathbb{N}^2$ $b \geq a$	$X(\Omega) = \llbracket a, b \rrbracket$ $\forall k \in \llbracket a, b \rrbracket, \mathbb{P}(\{X = k\}) = \frac{1}{b-a+1}$	$\frac{a+b}{2}$	$\frac{(b-a)(b-a+2)}{12}$
Loi de Bernoulli	$\mathcal{B}(1, p)$	$p \in]0, 1[$	$X(\Omega) = \{0, 1\}$ $\mathbb{P}(\{X = 1\}) = p$ et $\mathbb{P}(\{X = 0\}) = 1 - p$	p	pq
Loi binomiale	$\mathcal{B}(n, p)$	$n \in \mathbb{N}^*$, $p \in]0, 1[$	$X(\Omega) = \llbracket 0, n \rrbracket$ $\forall k \in \llbracket 0, n \rrbracket, \mathbb{P}(\{X = k\}) = \binom{n}{k} p^k q^{n-k}$	np	npq
Loi géométrique	$\mathcal{G}(p)$	$p \in]0, 1[$	$X(\Omega) = \mathbb{N}^*$ $\forall k \in \mathbb{N}^*, \mathbb{P}(\{X = k\}) = p q^{k-1}$	$\frac{1}{p}$	$\frac{q}{p^2}$
Loi de Poisson	$\mathcal{P}(\lambda)$	$\lambda > 0$	$X(\Omega) = \mathbb{N}$ $\forall k \in \mathbb{N}, \mathbb{P}(\{X = k\}) = e^{-\lambda} \frac{\lambda^k}{k!}$	λ	λ