Bernoulli eloszlás: $P(\xi = 1) = p$, $P(\xi = 0) = 1 - p$, $E(\xi) = p$, $D(\xi) = \sqrt{p(1-p)}$.

Binomiális eloszlás: $P(\xi = k) = \binom{n}{k} p^k (1-p)^{n-k}$, $E(\xi) = np$, $D(\xi) = \sqrt{np(1-p)}$.

Polinomiális eloszlás: $P(\xi_1 = k_1, \ldots, \xi_r = k_r) = \frac{n!}{k_1! \ldots k_r!} p_1^{k_1} \ldots p_r^{k_r}$,
$0 \le p_i$, $p_1 + \ldots + p_r = 1$, $k_i \ge 0$, $k_1 + \ldots + k_r = n$, $r \ge 2$.

Hipergeometrikus eloszlás:
$P(\xi = k) = \frac{\binom{M}{k}\binom{N-M}{n-k}}{\binom{N}{n}}$, $k = 0, 1, \ldots, n$, $E(\xi) = n\frac{M}{N}$, $D^2(\xi) = n\frac{M}{N}\left(1 - \frac{M}{N}\right)\left(1 - \frac{n-1}{N-1}\right)$, $M < N$, $n \le N$.

Geometriai eloszlás: $P(\xi = k) = (1-p)^{k-1} p$, $k = 1, 2, \ldots$, $E(\xi) = \frac{1}{p}$, $D(\xi) = \frac{\sqrt{1-p}}{p}$.

Negatív binomiális eloszlás: $P(\xi = r + k) = \binom{r+k-1}{k} p^r (1-p)^k$, $k = 0, 1, 2, \ldots$,
$E(\xi) = \frac{r}{p}$, $D(\xi) = \frac{\sqrt{r(1-p)}}{p}$, $r \ge 1$.

Poisson eloszlás: $P(\xi = k) = \frac{\lambda^k}{k!} e^{-\lambda}$, $k = 0, 1, 2, \ldots$, $E(\xi) = \lambda$, $D(\xi) = \sqrt{\lambda}$.

Normális eloszlás: $f(x) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$, $-\infty < x < \infty$, $E(\xi) = \mu$, $D(\xi) = \sigma$.

Egyenletes eloszlás: $f(x) = \frac{1}{b-a}$, ha $a < x < b$. $E(\xi) = \frac{a+b}{2}$, $D(\xi) = \frac{b-a}{\sqrt{12}}$.

Exponenciális eloszlás: $f(x) = \lambda e^{-\lambda x}$, ha $x > 0$. $E(\xi) = D(\xi) = \frac{1}{\lambda}$.

k-adrendű λ paraméterű gamma eloszlás (k db független exponenciális eloszlású valószínűségi változó összegének sűrűségfüggvénye): $f(x) = \frac{\lambda^k}{(k-1)!} x^{k-1} e^{-\lambda x}$, ha $x > 0$.

Többdimenziós normális eloszlás: $f(\underline{x}) = \frac{1}{\left(\sqrt{2\pi}\right)^n \sqrt{\det(D)}} e^{-\frac{1}{2}(\underline{x}-\underline{\mu})^T D^{-1} (\underline{x}-\underline{\mu})}$, $\quad \underline{x} \in R^n$.

χ^2 eloszlás: $\chi^2 = \xi_1^2 + \ldots + \xi_n^2$

Student eloszlás:

$$t = \frac{\xi_0}{\sqrt{\frac{\xi_1^2 + \ldots + \xi_n^2}{n}}}$$

F eloszlás:

$$F = \frac{\frac{1}{m}(\eta_1^2 + \ldots + \eta_m^2)}{\frac{1}{n}(\xi_1^2 + \ldots + \xi_n^2)}$$

$E_n(\xi) = \frac{\xi_1+\ldots+\xi_n}{n}$

$V_n(\xi) = \frac{1}{n}\sum_i(\xi_i - E_n(\xi))^2, \qquad D_n(\xi) = \sqrt{V_n(\xi)}$

$V_n^*(\xi) = \frac{n}{n-1}V_n(\xi), \qquad D_n^*(\xi) = \sqrt{V_n^*(\xi)}$

$C_n(\xi,\eta) = \frac{1}{n}\sum_i(\xi_i - E_n(\xi))(\eta_i - E_n(\eta)), \qquad r_n(\xi,\eta) = \frac{C_n(\xi,\eta)}{D_n(\xi)D_n(\eta)}$

$y = ax+b, \qquad \hat{a} = r\frac{\sqrt{V_n(Y)}}{\sqrt{V_n(x)}}, \qquad \hat{b} = \overline{Y} - \hat{a}\overline{x}$

$SST = \sum_{i=1}^n(Y_i - \overline{Y})^2, \qquad SSR = \sum_{i=1}^n(\hat{Y}_i - \overline{Y})^2, \qquad SSE = \sum_{i=1}^n(Y_i - \hat{Y}_i)^2, \qquad \hat{Y}_i = \hat{a}x_i + \hat{b}$

$Z_n(\mu) = \frac{\frac{1}{n}\sum\limits_{i=1}^{n}\xi_i - \mu}{\sigma/\sqrt{n}}, \qquad Z_n^*(\mu) = \frac{\frac{1}{n}\sum\limits_{i=1}^{n}\xi_i - \mu}{\sqrt{V_n^*(\xi)/n}}, \qquad x_\alpha = \Phi_{n-1}^{-1}\left(1-\frac{\alpha}{2}\right)$

$\left[\frac{1}{n}\sum_{i=1}^n\xi_i - x_\alpha\frac{\sigma}{\sqrt{n}}, \frac{1}{n}\sum_{i=1}^n\xi_i + x_\alpha\frac{\sigma}{\sqrt{n}}\right], \qquad \sigma = \sqrt{V_n^*(\xi)}$

$\chi_{n-1}^2 = \frac{nV_n(\xi)}{\sigma^2}$

$Z_{n_1,n_2}(\mu_1,\mu_2) = \dfrac{E_{n_1}(\xi) - E_{n_2}(\eta) - (\mu_1-\mu_2)}{D_{n_1,n_2}^*}, \qquad t_\alpha = \Phi_{n_1+n_2-2}\left(1-\dfrac{\alpha}{2}\right)$

$D_{n_1,n_2}^* = \sqrt{\left((n_1-1)V_{n_1}^*(\xi) + (n_2-1)V_{n_2}^*(\eta)\right)\frac{n_1+n_2}{n_1n_2(n_1+n_2-2)}}$

$\left[E_{n_1}(\xi) - E_{n_2}(\eta) - t_\alpha D_{n_1,n_2}^*, E_{n_1}(\xi) - E_{n_2}(\eta) + t_\alpha D_{n_1,n_2}^*\right]$

$Z_{n_1,n_2}(\sigma_1,\sigma_2) = \frac{V_{n_1}^*(\xi)/V_{n_2}^*(\eta)}{\sigma_1^2/\sigma_2^2}$

$\chi^2 = \sum_{i=1}^r\frac{(\varphi_i - np_i)^2}{np_i}, \qquad p_i = P(x_{i-1} \le \xi_i < x_i) = F_0(x_i) - F_0(x_{i-1}).$