نام	تابع وزن	محدوده تعریف	فرمول
Jacobi	$(1-x)^{\alpha}(1+x)^{\beta}, \alpha, \beta > -1$	$[-1, 1]$	$P_k^{(\alpha,\beta)}(x) = \sum_{v=0}^{k} \binom{k+\alpha}{k-v}\binom{k+\beta}{v}(\frac{x-1}{2})^{v}(\frac{x+1}{2})^{k-v}$
Gegenbauer	$(1-x^2)^{\lambda}, \lambda > -1$	$[-1, 1]$	$G_k^{(\lambda)}(x) = \sum_{m=0}^{[\frac{k}{2}]} \frac{(-1)^m \Gamma(k-m+\lambda)(2x)^{k-2m}}{\Gamma(\lambda)\Gamma(m+1)\Gamma(k-2m+1)}$
Legender	1	$[-1, 1]$	$L_k(x) = \frac{e^x}{k!}\frac{d^k}{dx^k}(x^k e^{-x}), L_0(x) = 1$
Chebyshev (۱)	$(1-x^2)^{-\frac{1}{2}}$	$[-1, 1]$	$T_k(x) = cos(k\ arc\ cos\ x)$
Chebyshev (۲)	$(1-x^2)^{\frac{1}{2}}$	$[-1, 1]$	$u_k(x) = \frac{sin((k+1)\theta)}{sin\theta}, x = cos\theta$
Hermite	$e^{-\frac{x^2}{2}}$	$(-\infty, +\infty)$	$H_0(x) = 1, H_k(x) = (-1)^k e^{\frac{x^2}{2}} \frac{d^k}{dx^k} e^{-\frac{x^2}{2}}$
Laguerre	$x^{\lambda}e^{-x}, \lambda > -1$	$(0, +\infty)$	$L_k^{(\lambda)}(x) = \frac{e^x x^{-\lambda}}{k!}\frac{d^k}{dx^k}(e^{-x}x^{k+\lambda})$