Teoría de Sturm-Liouville

$$-\frac{d}{dx}\left[p(x)\frac{dy}{dx}\right]+q(x)y = \lambda w(x)y$$

$$\begin{aligned} \alpha_1 y(a)+\alpha_2 y'(a) &= 0 \qquad & \alpha_1^2+\alpha_2^2 &> 0 \\ \beta_1 y(b)+\beta_2 y'(b) &= 0 \qquad & \beta_1^2+\beta_2^2 &> 0 \end{aligned}$$

$$\langle y_n, y_m\rangle = \int_a^b y_n(x)y_m(x)w(x)dx = \delta_{mn}$$