DISTÂNCIA EUCLIDIANA QUADRADA

$$D_{\mathrm{e}}(\varphi_{\mathrm{n}},\psi_{\mathrm{n}}) = \sqrt{\sum_{\mathrm{i}} \left|\varphi_{\mathrm{n}}(z_{\mathrm{i}}) - \psi_{\mathrm{n}}(z_{\mathrm{i}})\right|^2}$$

EQUAÇÕES TRANSCEDENTAIS (PQF)

$$\tan\left(\sqrt{\frac{a^2 m_{\mathrm{e}}^* E_{\mathrm{n}}}{2\hbar^2}}\right) = \sqrt{\frac{(V_{\mathrm{b}} - E_{\mathrm{n}})}{E_{\mathrm{n}}}} \implies f(E_{\mathrm{n}}) = \tan\left(\sqrt{\frac{a^2 m_{\mathrm{e}}^* E_{\mathrm{n}}}{2\hbar^2}}\right) - \sqrt{\frac{(V_{\mathrm{b}} - E_{\mathrm{n}})}{E_{\mathrm{n}}}} = 0$$

$$\cot\left(\sqrt{\frac{a^2 m_{\mathrm{e}}^* E_{\mathrm{n}}}{2\hbar^2}}\right) = -\sqrt{\frac{(V_{\mathrm{b}} - E_{\mathrm{n}})}{E_{\mathrm{n}}}} \implies g(E_{\mathrm{n}}) = \cot\left(\sqrt{\frac{a^2 m_{\mathrm{e}}^* E_{\mathrm{n}}}{2\hbar^2}}\right) + \sqrt{\frac{(V_{\mathrm{b}} - E_{\mathrm{n}})}{E_{\mathrm{n}}}} = 0$$