



7. $y(x) + \int_0^\infty f(t)y\left(\frac{x}{t}\right)y(t) dt = Ax^b.$

Solutions:

$$y_1(x) = \lambda_1 x^b, \quad y_2(x) = \lambda_2 x^b,$$

where λ_1 and λ_2 are the roots of the quadratic equation

$$I\lambda^2 + \lambda - A = 0, \quad I = \int_0^\infty f(t) dt.$$

Reference

Polyanin, A. D. and Manzhirov, A. V., *Handbook of Integral Equations*, CRC Press, Boca Raton, 1998.