

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

Solutions:

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

where  $\lambda_1$  and  $\lambda_2$  are the roots of the quadratic equation

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

## Reference

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

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