



6.  $y(x) + \int_0^\infty f(t)y(t)y\left(\frac{x}{t}\right) dt = 0.$

1°. A solution:

$$y(x) = -kx^C, \quad k = \left[ \int_0^\infty f(t) dt \right]^{-1},$$

where  $C$  is an arbitrary constant.

2°. The equation has the trivial solution  $y(x) \equiv 0.$

3°. The substitution  $y(x) = x^\beta w(x)$  leads to an equation of the same form,

$$w(x) + \int_0^\infty f(t)w(t)w\left(\frac{x}{t}\right) dt = 0.$$

### Reference

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