



9. $y(x + a) - bxy(x) = 0, \quad a, b > 0.$

Solution:

$$y(x) = \Theta(x) \int_0^\infty t^{(x/a)-1} e^{-t/(ab)} dt,$$

where $\Theta(x) = \Theta(x + a)$ is an arbitrary periodic function with period a .

Reference

Polyanin, A. D. and Manzhirov, A. V., *Handbook of Integral Equations: Exact Solutions (Supplement. Some Functional Equations)* [in Russian], Faktorial, Moscow, 1998.