



7. $y^\lambda(x)y\left(\frac{bx + \beta}{a - x}\right) = f(x), \quad \beta = a^2 + ab + b^2.$

This is a special case of equation 13, Subsection 2.3.

Reference

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