

32.
$$y(x) + cy(\frac{ax - \beta}{x + b}) = f(x), \qquad \beta = a^2 + ab + b^2.$$

This is a special case of equation 11 in Subsection 1.2.

Reference

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

Copyright $\ \textcircled{\odot}\ 2004$ Andrei D. Polyanin

http://eqworld.ipmnet.ru/en/solutions/fe/fe1132.pdf