



6. $Ay(ax) + By(bx) + y(x) = 0.$

This functional equation has particular solutions of the form $y(x) = Cx^\beta$, where C is an arbitrary constant, and β is a root of the transcendental equation $Aa^\beta + Bb^\beta + 1 = 0$.

Reference

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