

9.
$$y^{\lambda}(x)y(\sqrt{a^2-x^2})=f(x)$$
.

This is a special case of equation 9, 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.

Copyright © 2004 Andrei D. Polyanin

http://eqworld.ipmnet.ru/en/solutions/fe/fe2209.pdf