

6.
$$\int_{a}^{x} (x-t)^{\lambda} y(t) dt = f(x), \quad f(a) = 0, \quad 0 < \lambda < 1.$$

Solution:
$$y(x) = \frac{\sin(\pi \lambda)}{\pi \lambda} \frac{d^2}{dx^2} \int_a^x \frac{f(t) dt}{(x-t)^{\lambda}}$$
.

References

Gakhov, **F. D.**, *Boundary Value Problems* [in Russian], Nauka, Moscow, 1977. **Polyanin**, **A. D. and Manzhirov**, **A. V.**, *Handbook of Integral Equations*, CRC Press, Boca Raton, 1998.

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