

20.
$$\int_{a}^{x} \sinh(\lambda \sqrt{x-t}) y(t) dt = f(x), \qquad f(a) = 0.$$

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

Reference

Polyanin, A. D. and Manzhirov, A. V., Handbook of Integral Equations, CRC Press, Boca Raton, 1998.

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