28. $\displaystyle\int_a^x \sin\bigl(\lambda\sqrt{x-t}\,\bigr)\,y(t)\,dt = f(x), \qquad f(a) = 0.$

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

Reference

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