**21.** $\displaystyle\int_{-\infty}^{\infty} K_0\big(|x-t|\big)\, y(t)\, dt = f(x).$

Here, $K_0(z)$ is the modified Bessel function of the second kind.

Solution:

$$y(x) = -\frac{1}{\pi^2}\left(\frac{d^2}{dx^2} - 1\right)\int_{-\infty}^{\infty} K_0\big(|x-t|\big) f(t)\, dt.$$

### References

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