**15.** $\quad y(x) - \lambda \displaystyle\int_0^\infty e^{\mu(x-t)} \sin(xt) y(t)\, dt = f(x).$

Solution:

$$y(x) = \frac{f(x)}{1 - \frac{\pi}{2}\lambda^2} + \frac{\lambda}{1 - \frac{\pi}{2}\lambda^2} \int_0^\infty e^{\mu(x-t)} \sin(xt) f(t)\, dt, \qquad \lambda \neq \pm\sqrt{2/\pi}.$$

### Reference

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