

15. 
$$y(x) + y(a - x) = b$$
.

Solution:

$$y(x) = \frac{1}{2}b + \Phi(x, a - x),$$

where  $\Phi(x, z) = -\Phi(z, x)$  is any antisymmetric function with two arguments.

Particular solutions:

$$y(x) = b \sin^2 \left(\frac{\pi x}{2a}\right),$$
$$y(x) = b \cos^2 \left(\frac{\pi x}{2a}\right).$$

## Reference

**Polyanin, A. D. and Manzhirov, A. V.,** *Handbook of Integral Equations: Exact Solutions (Supplement. Some Functional Equations)* [in Russian], Faktorial, Moscow, 1998.

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