



**24.**  $y(x) - y(a/x) = f(x)$ .

The function  $f(x)$  is assumed to satisfy the condition  $f(x) = -f(a/x)$ .

Solution:

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

where  $\Phi(x, z) = \Phi(z, x)$  is any symmetric function of two arguments.

### Reference

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