



**11.**  $y(x)y(a/x) = b^2$ .

Solution:

$$y(x) = \pm b \exp[\Phi(x, a/x)],$$

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

For  $\Phi(x, z) = C(\ln x - \ln z)$ , there are particular solutions of the form

$$y = \pm ba^{-C} x^{2C},$$

where  $C$  is an arbitrary constant.

### Reference

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