

17. 
$$y(x)y(\sqrt{a^2-x^2}) = b^2$$
,  $0 \le x \le a$ .

Solution:

$$y(x) = \pm b \exp\left[\Phi\left(x, \sqrt{a^2 - x^2}\right)\right],$$

where  $\Phi(x, z) = -\Phi(z, x)$  is any antisymmetric 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.

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