



**45.  $y(\sin x) + y(\cos x) = f(x)$ .**

The function  $f(x)$  is assumed to satisfy the condition  $f(x) = f\left(\frac{\pi}{2} - x\right)$ .

Solution in implicit form:

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

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.