



**13.**  $f(ax, a^\beta y) = f(x, y)$ .

Here,  $a$  is an arbitrary number ( $a \neq 0$ ) and  $\beta$  is some constant.

Solution:

$$f(x, y) = \Phi(yx^{-\beta}),$$

where  $\Phi(x)$  is an arbitrary function.

### References

**Aczél, J. and Dhombres, J.**, *Functional Equations in Several Variables*, Cambridge Univ. Press, Cambridge, 1989.

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