



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

Here, a is an arbitrary number ($a \neq 0$) and β 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.