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

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

Solution:

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

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

Reference

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

