10.　$y\big(y(y(x))\big) - x = 0.$

This is a special case of equation 20 below in this subsection.

Particular solutions:

$$y_1(x) = -\frac{C^2}{C+x}, \qquad y_2(x) = C - \frac{C^2}{x}, \qquad y_3(x) = C_1 - \frac{(C_1+C_2)^2}{C_2+x},$$

where C, C_1, and C_2 are arbitrary constants.

Reference

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