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8. $y(x) + \int_0^x \dfrac{f\big(y(t)\big)}{ax+bt}\,dt = A.$

A solution: $y(x) = \lambda$, where λ is a root of the algebraic (or transcendental) equation

$$\ln\left(1 + \frac{b}{a}\right) f(\lambda) + b\lambda - Ab = 0.$$

Reference

Polyanin, A. D. and Manzhirov, A. V., *Handbook of Integral Equations*, CRC Press, Boca Raton, 1998.

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