



2. $y(2x) - ay^2(x) = 0$.

This is a special case of equation 3, Subsection 2.3.

Particular solution:

$$y(x) = \frac{1}{a}e^{Cx},$$

where C is an arbitrary constant.

Reference

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