



3. $y(2x) - 2y^2(x) + a = 0$.

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

Particular solutions with $a = 1$:

$$y(x) = \cos(Cx),$$

$$y(x) = \cosh(Cx),$$

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.