



27. $(ax^2 + b)y''_{xx} + axy'_x + f(y) = 0.$

The substitution $\xi = \int \frac{dx}{\sqrt{ax^2 + b}}$ leads to an autonomous equation of the form 3.1: $y''_{\xi\xi} + f(y) = 0.$

Reference

Polyanin, A. D. and Zaitsev, V. F., *Handbook of Exact Solutions for Ordinary Differential Equations, 2nd Edition*, Chapman & Hall/CRC, Boca Raton, 2003.