

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.

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http://eqworld.ipmnet.ru/en/solutions/ode/ode0327.pdf