

30. $y_{xx}'' + ay_x' + be^{2ax}y = 0$.

The transformation $\xi=e^{ax},\ u=ye^{ax}$ leads to a constant coefficient linear equation of the form 2.1: $u_{\xi\xi}''+ba^{-2}u=0$.

References

Kamke, E., Differentialgleichungen: Lösungsmethoden und Lösungen, I, Gewöhnliche Differentialgleichungen, B. G. Teubner, Leipzig, 1977.

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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