



14.  $(ax^2 + bx + c)^n y_x^{(n)} = ky.$

The transformation

$$\xi = \int \frac{dx}{ax^2 + bx + c}, \quad w = y(ax^2 + bx + c)^{\frac{1-n}{2}}$$

leads to a constant coefficient linear equation.

### Reference

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