



42.  $y'_x = f(x)e^{\lambda y} + g(x).$

The substitution  $u = e^{-\lambda y}$  leads to a linear equation:  $u'_x = -\lambda g(x)u - \lambda f(x).$

### Reference

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