

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.

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http://eqworld.ipmnet.ru/en/solutions/ode/ode0142.pdf