30. $\quad y'_x = -\dfrac{n}{m}\dfrac{y}{x} + y^k f(x)g(x^n y^m).$

The substitution $z = x^n y^m$ leads to a separable equation: $z'_x = m x^{\frac{n-nk}{m}} f(x) z^{\frac{k+m-1}{m}} g(z).$

Reference

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