



**36.**  $x[sf(x^n y^m) - mg(x^k y^s)]y'_x = y[ng(x^k y^s) - kf(x^n y^m)].$

The transformation  $t = x^n y^m$ ,  $w = x^k y^s$  leads to a separable equation:  $t f(t)w'_t = wg(w).$

### Reference

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