

34. 
$$x[f(x^ny^m) + mx^kg(x^ny^m)]y_x' = y[h(x^ny^m) - nx^kg(x^ny^m)]$$
. The transformation  $t = x^ny^m$ ,  $z = x^{-k}$  leads to a linear equation with respect to  $z = z(t)$ :

$$t[nf(t) + mh(t)]z'_t = -kf(t)z - kmg(t).$$

## Reference

 $\textbf{Polyanin, A. D. and Zaitsev}, \textbf{V. F.}, \textit{Handbook of Exact Solutions for Ordinary Differential Equations}, \textit{2nd Edition}, \textbf{Chapman Polyanin}, \textbf{Chapm$ & Hall/CRC, Boca Raton, 2003.

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