

48.  $y_{xx}'' = f(x)g(xy_x' - y)$ .

The substitution  $w = xy'_x - y$  leads to a first-order separable equation:  $w'_x = xf(x)g(w)$ .

## Reference

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

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