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16. $y''_{xx} - y'_x = f(y)$.

Second-order autonomous equation. The substitution $w(y) = y'_x$ leads to a first-order equation:
 $ww'_y - w = f(y)$.

References

- Zaitsev, V. F. and Polyanin, A. D.,** *Discrete-Group Methods for Integrating Equations of Nonlinear Mechanics*, CRC Press, Boca Raton, 1994.
- 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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