



5. $y''_{xx} = f(y + ax^2 + bx + c).$

The substitution $w = y + ax^2 + bx + c$ leads to an autonomous equation of the form 3.1: $w''_{xx} = f(w) + 2a.$

Reference

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