5. $y''_{xx} + (ax + b)y'_x + (\alpha x^2 + \beta x + \gamma)y = 0.$

The substitution $y = u \exp(sx^2)$, where s is a root of the quadratic equation $4s^2 + 2as + \alpha = 0$, leads to an equation of the form 2.11: $u''_{xx} + [(a + 4s)x + b]u'_x + [(\beta + 2bs)x + \gamma + 2s]u = 0.$

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