



$$11. \quad y_x^{(n)} = axy + b, \quad a > 0.$$

Solution:

$$y = \sum_{\nu=0}^n C_\nu \varepsilon_\nu \int_0^\infty \exp\left[\varepsilon_\nu xt - \frac{t^{n+1}}{a(n+1)}\right] dt, \quad \varepsilon_\nu = \exp\left(\frac{2\pi\nu i}{n+1}\right),$$

$$\text{where } \sum_{\nu=0}^n C_\nu = \frac{b}{a} \text{ and } i^2 = -1.$$

## References

- Kamke, E.**, *Differentialgleichungen: Lösungsmethoden und Lösungen, I, Gewöhnliche Differentialgleichungen*, B. G. Teubner, Leipzig, 1977.
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