

一些常见的凑微分形式

- 对 $f'(x) = f(x)$, 构造 $g(x) = f(x)e^{-x}$.
- 对 $f'(x) + f(x) = \lambda$, 构造 $g(x) = (f(x) - \lambda)e^x$.
- 对 $f'(x) - \lambda(f(x) - x) = 1$, 构造 $g(x) = (f(x) - x)e^{-\lambda x}$.
- 对 $xf'(x) + \alpha f(x) = 0$, 构造 $g(x) = x^\alpha f(x)$.
- 对 $xf(x) + f'(x) = 0$, 构造 $g(x) = f(x)e^{x^2/2}$.
- 对 $f''(x) + f(x) = 0$, 构造 $g(x) = f^2(x) + (f'(x))^2$.
- 对 $f''(x) = f(x)$, 构造 $g(x) = (f'(x) + f(x))e^{-x}$ 或 $g(x) = (f'(x) - f(x))e^x$.