H25

1 続き

(4)

基本解は(2)と同じ

$\eta = A\cos x + B\sin x$

$\eta' = -A\sin x + B\cos x$

$\eta'' = -A\cos x - B\sin x$

$(-A + 6B + 11A)\cos x + (-B - 6A + 11B)\sin x = x$

$$\begin{cases} 10A + 6B = 0 \\ -6A + 10B = 1 \end{cases}$$

$A = -\frac{3}{68}$ $B = \frac{5}{68}$

$y = C_1 e^{3x}\cos\sqrt{2}t + C_2 e^{3x}\sin\sqrt{2}t - \frac{3}{68}\cos x + \frac{5}{68}\sin x$