

Bukti: Masukan $\rightarrow$ Keluaran

$$x_1(t) = 1 \rightarrow y_1(t) = Kx_1(t) + \varepsilon \\ = K + \varepsilon$$

$$x_2(t) = 2 \rightarrow y_2(t) = 2K + \varepsilon$$

$$\alpha_1 = 1, \alpha_2 = 1 \rightarrow \alpha_1 y_1(t) + \alpha_2 y_2(t) \\ = K + \varepsilon + 2K + \varepsilon \\ = 3K + 2\varepsilon \quad \checkmark$$

$$x(t) = \alpha_1 x_1(t) + \alpha_2 x_2(t) \\ = 1 + 2 = 3$$

$$\rightarrow y(t) = Kx(t) + \varepsilon$$

$$= 3K + \varepsilon \quad \checkmark$$

This system is non-linear
because $y(t) \neq \alpha_1 y_1(t) + \alpha_2 y_2(t)$