

4.03c*

lördag 3 februari 2024

11:32

$$\frac{s+5}{(s+3)^2} = \frac{A}{(s+3)} + \frac{B}{(s+3)^2}$$

$$s+5 = A(s+3) + B = As + (3A+B)$$

$$A=1 \quad B=2 \rightarrow \frac{1}{s+3} + \frac{2}{(s+3)^2}$$

$$\frac{1}{s+3} \rightarrow e^{-3t} \theta(t)$$

$$\frac{2}{(s+3)^2} \rightarrow 2t e^{-3t} \theta(t)$$

$$\text{sv: } (1+2t) e^{-3t} \theta(t)$$