4.02bc*

lördag 3 februari 2024 11:32

b)

$$\frac{1}{s^3} = \frac{2}{s^3} \cdot \frac{1}{2} \iff$$

$$\iff \frac{t^2}{2}\theta(t)$$

c) s. 46 (ex 4.3)

$$\frac{s^4+6s^3-10s^2+1}{s^5} = \frac{s^4}{s^5} + \frac{6s^3}{s^5} - \frac{10s^2}{s^5} + \frac{1}{s^5} =$$

$$= \frac{1}{s} + \frac{6}{s^2} - \frac{10}{s^3} + \frac{1}{s^5} =$$

$$= \theta(t) + 6t\theta(t) - 5t^2\theta(t) + t^4/24\,\theta(t) =$$

$$= \left(1 + 6t - 5t^2 + \frac{t^4}{24}\right)\theta(t)$$