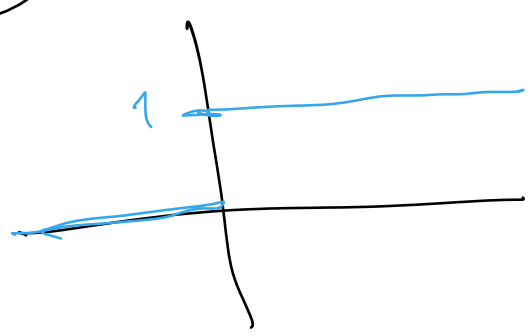
6.21**

lördag 17 februari 2024 18:56

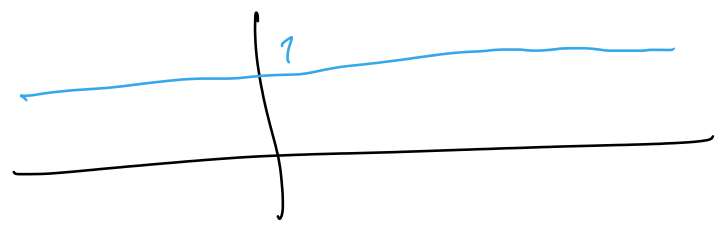
$f(t) = \theta(t)$ $g(t) = \theta(t) - 2\theta(t-1) + \theta(t-2)$

$h(t) = 1$

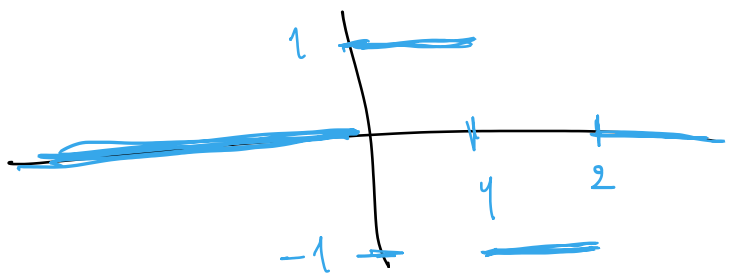
a) $f(t)$



$h(t)$



$g(t)$



b)

$$\mathcal{L}(f)\cdot\mathcal{L}(g) = \frac{1}{s}\cdot\left(\frac{1}{s} - 2\frac{e^{-s}}{s} + \frac{e^{-2s}}{s}\right) =$$

$$= \frac{1}{s^2}\left(1 - 2e^{-s} + e^{-2s}\right) =$$

$$= \frac{1}{s^2} - \frac{2e^{-s}}{s^2} + \frac{e^{-2s}}{s^2} = V(s)$$

$f\cdot g = +\theta(t) - 2(t-1)\theta(t-1) + (t-2)\theta(t-2)$

$h\cdot g = 0$? ? ?

c)

$(f\cdot g)\cdot h \equiv 1$

$(h\cdot g)\cdot f \equiv 0$