CPE381 #13

$$H(s) = \frac{1}{s\cdot(s+a)} = \frac{A}{s} + \frac{B}{s+a}$$

$$A = H(s)\cdot s\Big|_{s=0}$$

$$B = H(s)\cdot(s+a)\Big|_{s=-a} = -\frac{1}{a}$$

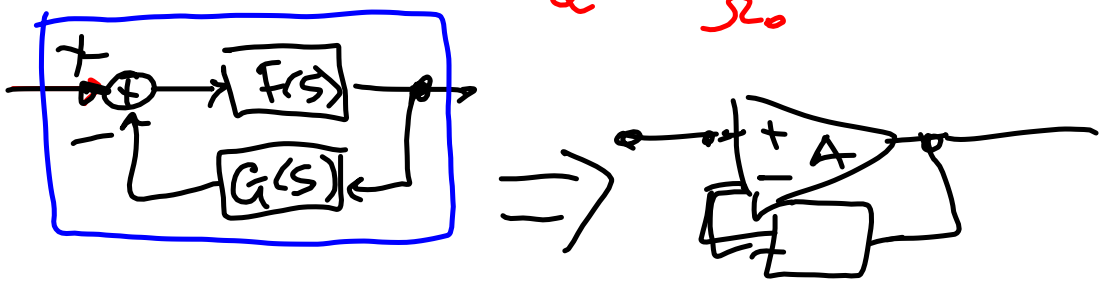
$$\frac{1}{s^2+b\cdot s+c} = \frac{1}{(s+d)(s+e)}$$

Ch 3.5.1.1

COMPLEX CONJUGATE

Ch. 3.5.1.2.

$$\frac{1}{(s+\alpha)^2+\Omega^2}$$



$$H(s) = \frac{\frac{1}{Cs}}{R + \frac{1}{Cs}} = \frac{\frac{1}{RC}}{s + \frac{1}{RC}}$$

$\frac{1}{RC} = \alpha$

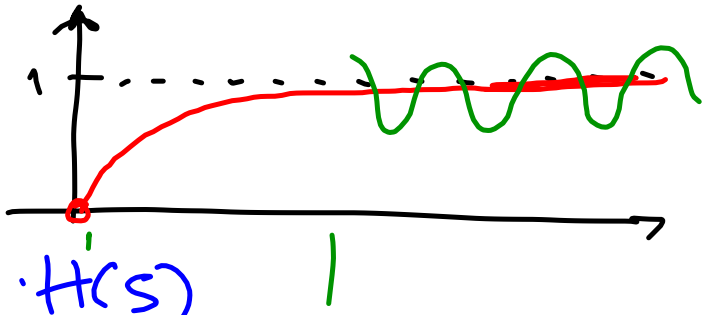
$R = 1$
$C = 1$

$e^{-\alpha t}$

$$H(s) = \frac{1}{s+1}$$

$x(t) = u(t)$

$X(s) = \frac{1}{s}$



$Y(s) = X(s) \cdot H(s)$

$= \frac{1}{s} \cdot \frac{1}{(s+1)}$

laplace(u(t) + 0.5·cos(2π·0.2·t))

$$H(s) = \frac{1}{s+1} \Rightarrow \frac{1}{\sigma + j\Omega + 1}$$

$$e^{st} = e^{\sigma + j\Omega t} = e^{\sigma} \cdot e^{j\Omega t}$$

$s \to \sigma$

$\sigma \to 0$

$e^{0} = 1$

$e^{j\Omega_0 t} \int x(t-\tau)$

$e^{j\Omega_0(t-\tau)} = e^{j\Omega_0 t} \cdot e^{-j\Omega_0 \tau}$

Feb 23-3:06 PM