tesis pref test 27/6/2009

$Y(s)$ $\quad \frac{5}{s+5} \cdot \frac{1}{s} = \frac{5}{s(s+5)} = \frac{A}{s} + \frac{B}{s+5}$

$= \frac{1}{s} - \frac{1}{s+5}$

$A = \left.\frac{5}{s+5}\right|_{s=0} = 1$

$B = \left.\frac{5}{s}\right|_{s=-5} = -1$

$\downarrow$

$$\boxed{Y(t) = 1 - e^{-5t}}$$

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

$$A = \left.\frac{d}{ds}\left\{\frac{5}{s+5}\right\}\right|_{s=0} = -\frac{5}{25}$$

NOTA.

$$B = \left.\frac{5}{s+5}\right|_{s=0} = 1$$

$$C = \left.\frac{5}{s^2}\right|_{s=-5} = -1$$

$$-\frac{5}{25} +$$

$$\omega_d = \omega_n \sqrt{1-\xi^2}$$

c.c)

$$t^n \rightleftharpoons \frac{n}{s^{n+1}}$$

$$s^n = \frac{t^{-(n+1)}}{n+1}$$

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

$$= -t$$

$$t_r\Big|_{10\%}^{90\%} \quad \frac{1}{\omega_d}\left[\operatorname{artg}\left(\frac{\omega_d}{\xi\omega_n}\right)\right]$$