Polos del sistema de segundo orden(general):

$$s^2 + 2\xi\omega_n s + \omega_n^2 = 0$$

$$s_{1,2} = \frac{-2\xi\omega_n \pm \sqrt{(2\xi\omega_n)^2 - 4\omega_n^2}}{2}$$

$$s_{1,2} = \frac{-2\xi\omega_n \pm \sqrt{4\xi^2\omega_n^2 - 4\omega_n^2}}{2}$$

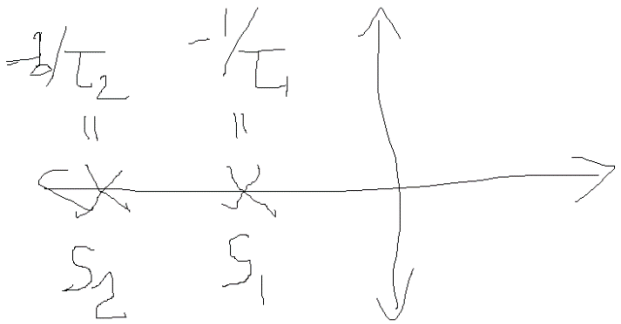
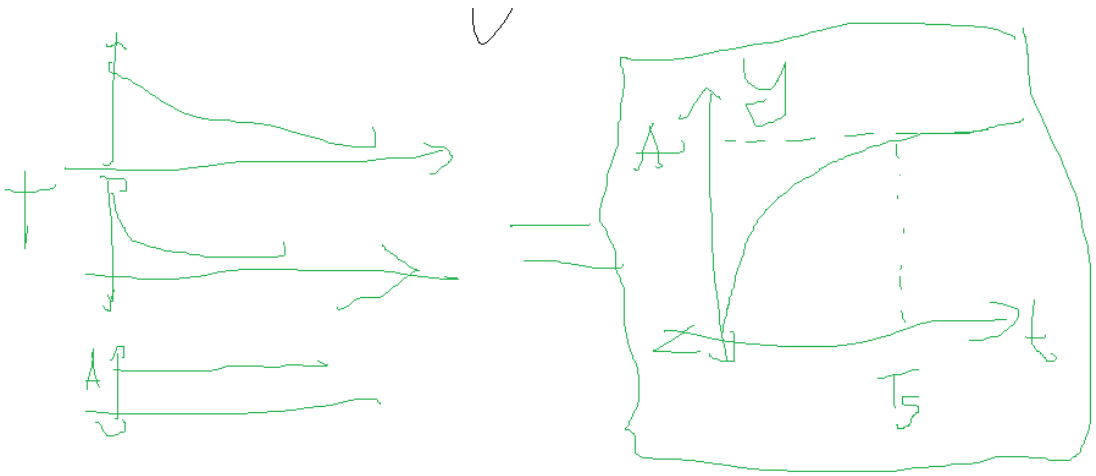
$$s_{1,2} = \frac{-2\xi\omega_n \pm \sqrt{4\omega_n^2(\xi^2 - 1)}}{2}$$

$$s_{1,2} = \frac{-2\xi\omega_n \pm 2\omega_n\sqrt{\xi^2 - 1}}{2}$$

$$s_{1,2} = -\xi\omega_n \pm \omega_n\sqrt{\xi^2 - 1}$$

$$s_{1,2} = \omega_n\left(-\xi \pm \sqrt{\xi^2 - 1}\right)$$

Caso 1:



$$T_s = 4(\tau_1 + \tau_2)$$