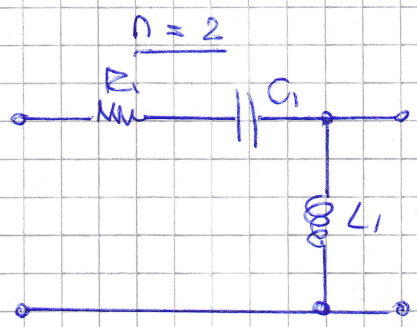
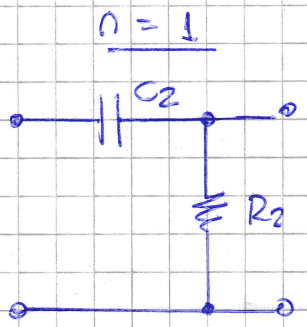
## PUNTO 3

La red pasiva más básica que genera un polo a 45° es:

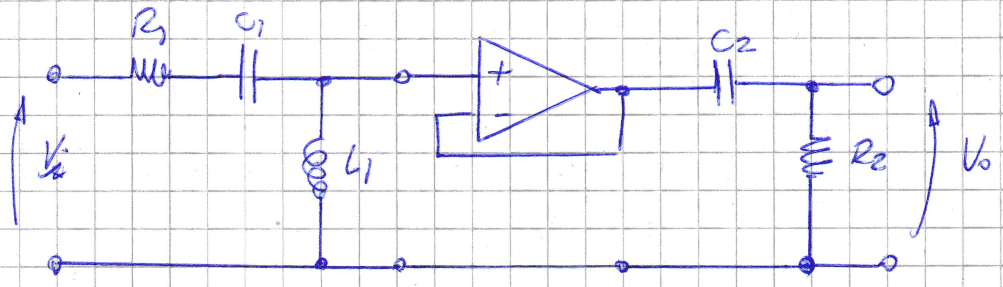



$$T_2(s) = \frac{s^2}{s^2 + \frac{R_1}{L_1} s + 1/L_1C_1}$$

$$T_1(s) = \frac{s}{s + 1/R_2C_2}$$

$$T_3(s) = \frac{s^2}{s^2 + \frac{R_1}{L_1} \cdot s + 1/L_1C_1} \cdot \frac{s}{s + 1/R_2C_2} = \frac{s^2}{s^2 + 0{,}788 s + 0{,}638} \cdot \frac{s}{s + 0{,}788}$$




Defino los componentes:

$$\frac{1}{R_2C_2} = 0{,}788 \qquad (\Omega_2 = \boxed{R_2 = 1\ \Omega.})$$

$\boxed{C_2 = 1{,}253}$ Puedo hacer que $C_1 = C_2 \Rightarrow \boxed{C_1 = 1{,}253}$

ya que no afecta en lo otra $T_2(s)$.

$$\frac{R_1}{L_1} = 0{,}798 \quad \wedge \quad \frac{1}{L_1 C_1} = 0{,}638$$

$$\downarrow$$

$$L_1 = \frac{1}{0{,}638 \cdot 1{,}253} \Rightarrow \boxed{L_1 = 1{,}251}$$

$$R_1 = \overbrace{1{,}251}^{L_1} \cdot 0{,}798$$

$$\boxed{R_1 \cong 1}$$

Entonces: