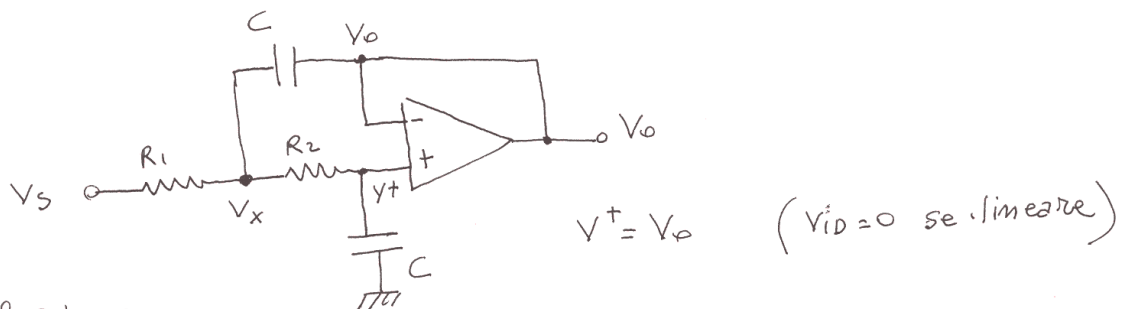


Esercizio 10 Determinare la f.d.t. del seguente circuito



Soluzione

$$\begin{cases} \frac{V_s - V_x}{R_1} + \frac{V_o - V_x}{1/sC} = \frac{V_x}{R_2 + 1/sC} \\ V^+ = \frac{1/sC}{R_2 + 1/sC} V_x = V_o \end{cases}$$

$$\begin{cases} V_s - V_x + sR_1C(V_o - V_x) = \frac{sR_1C}{1 + sR_2C} V_x \\ V_x = V_o(1 + sR_2C) \end{cases}$$

$$V_s - V_o(1 + sR_2C) + \cancel{sR_1C V_o} - \cancel{sR_1C V_o(1 + sR_2C)} = \cancel{sR_1C V_o}$$

$$V_s = V_o(1 + sR_2C)(1 + sR_1C)$$

$$W(s) = \frac{V_o}{V_s} = \frac{1}{(1 + sR_2C)(1 + sR_1C)}$$