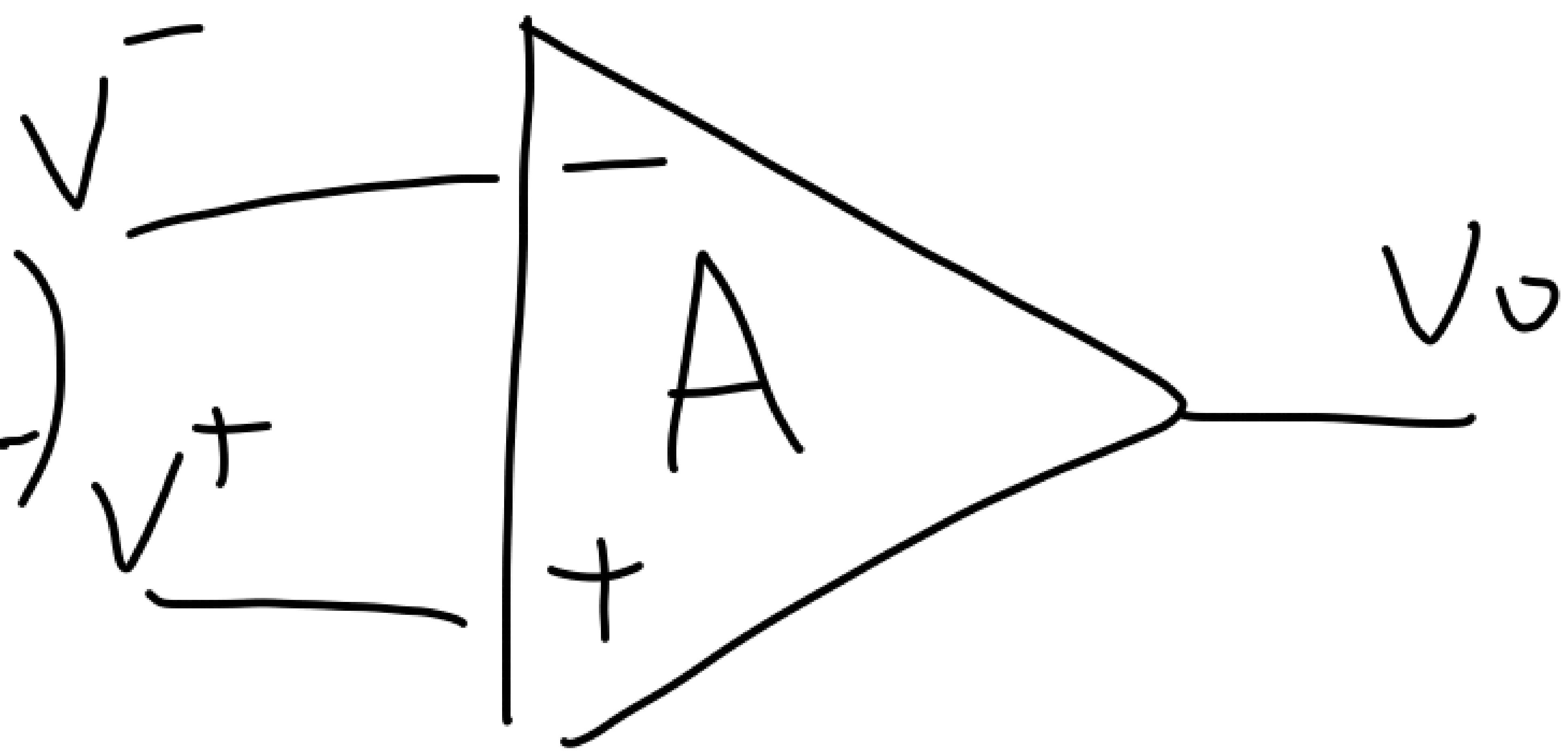
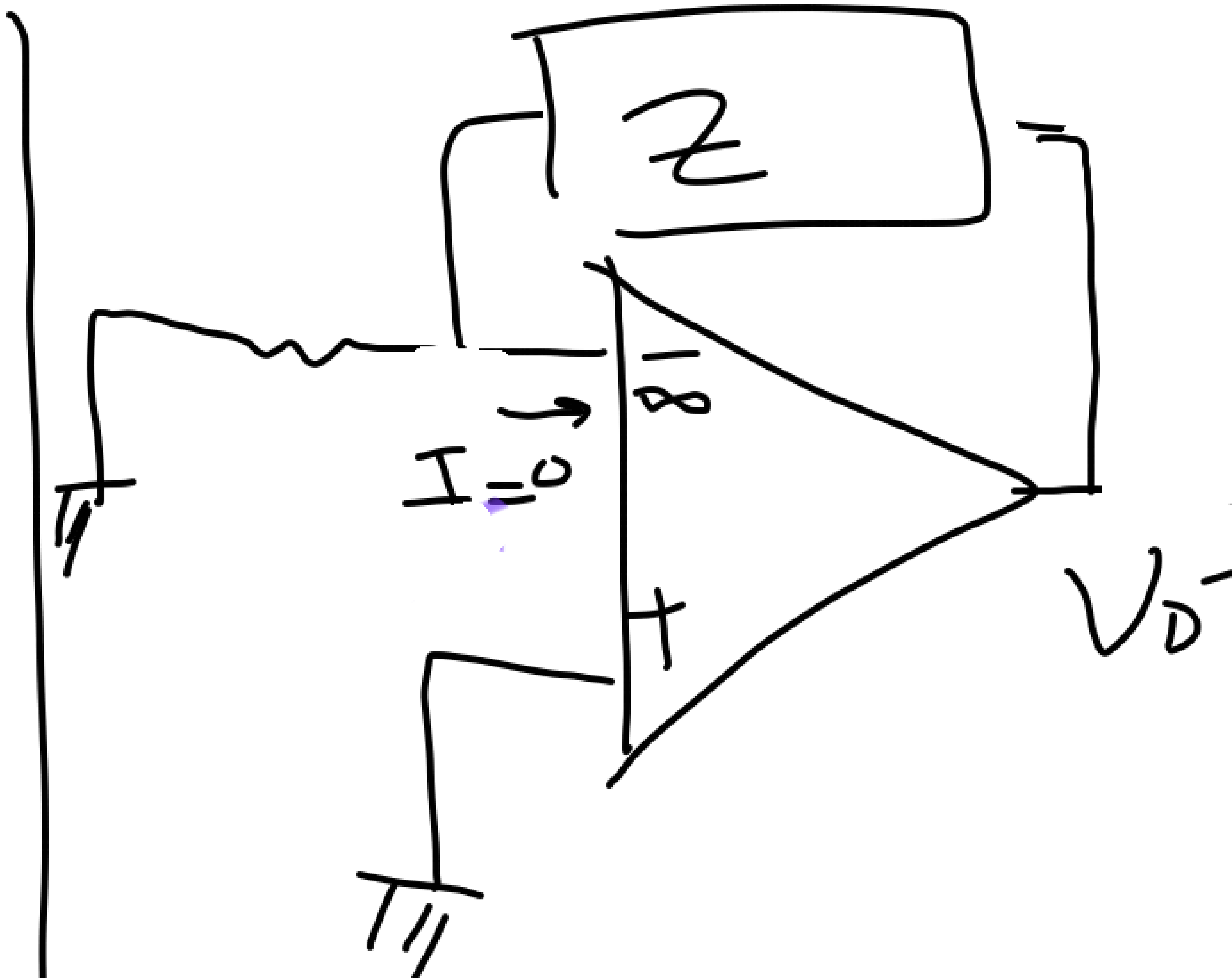
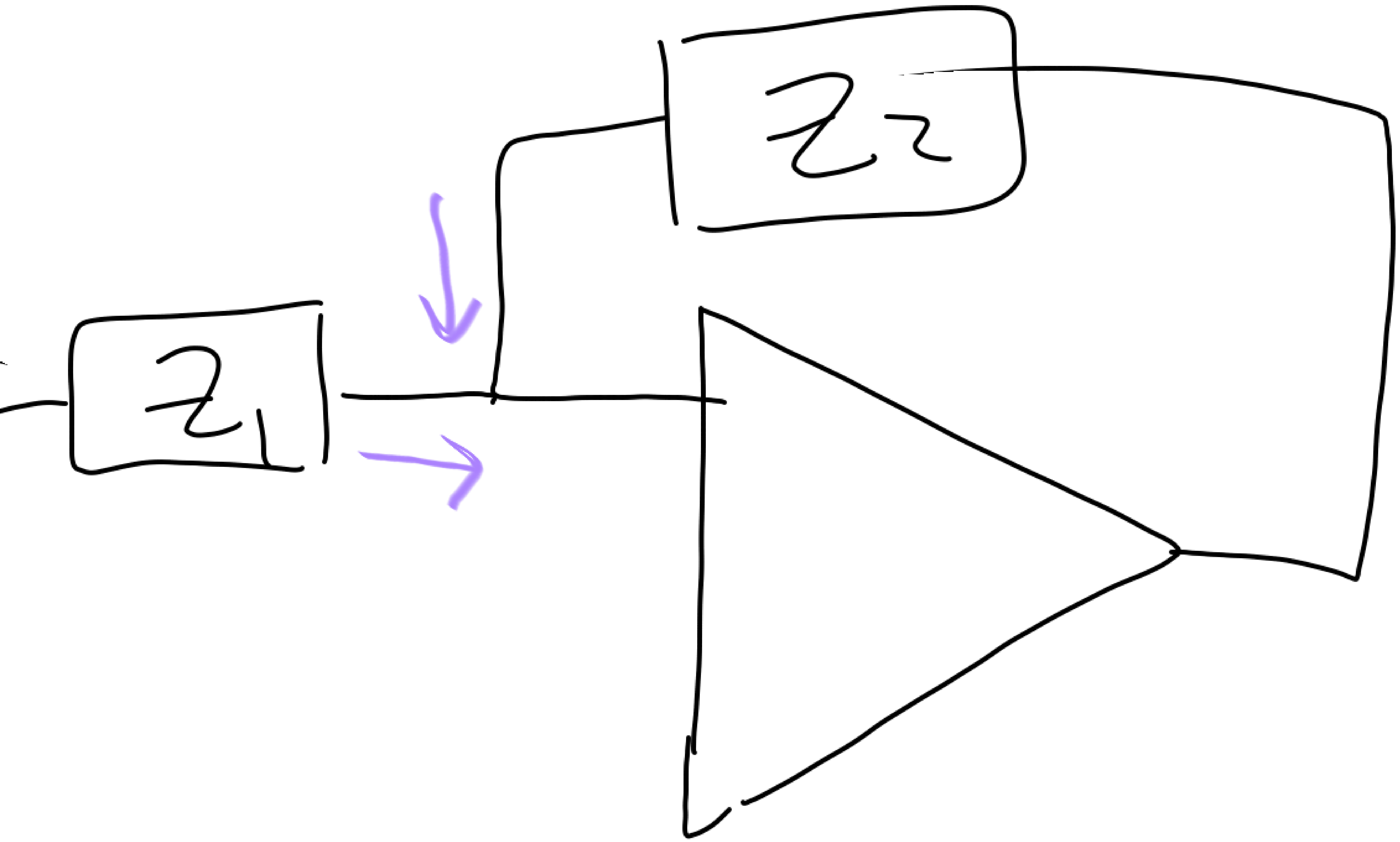
$V_{out} = A(V_+ - V_-)$



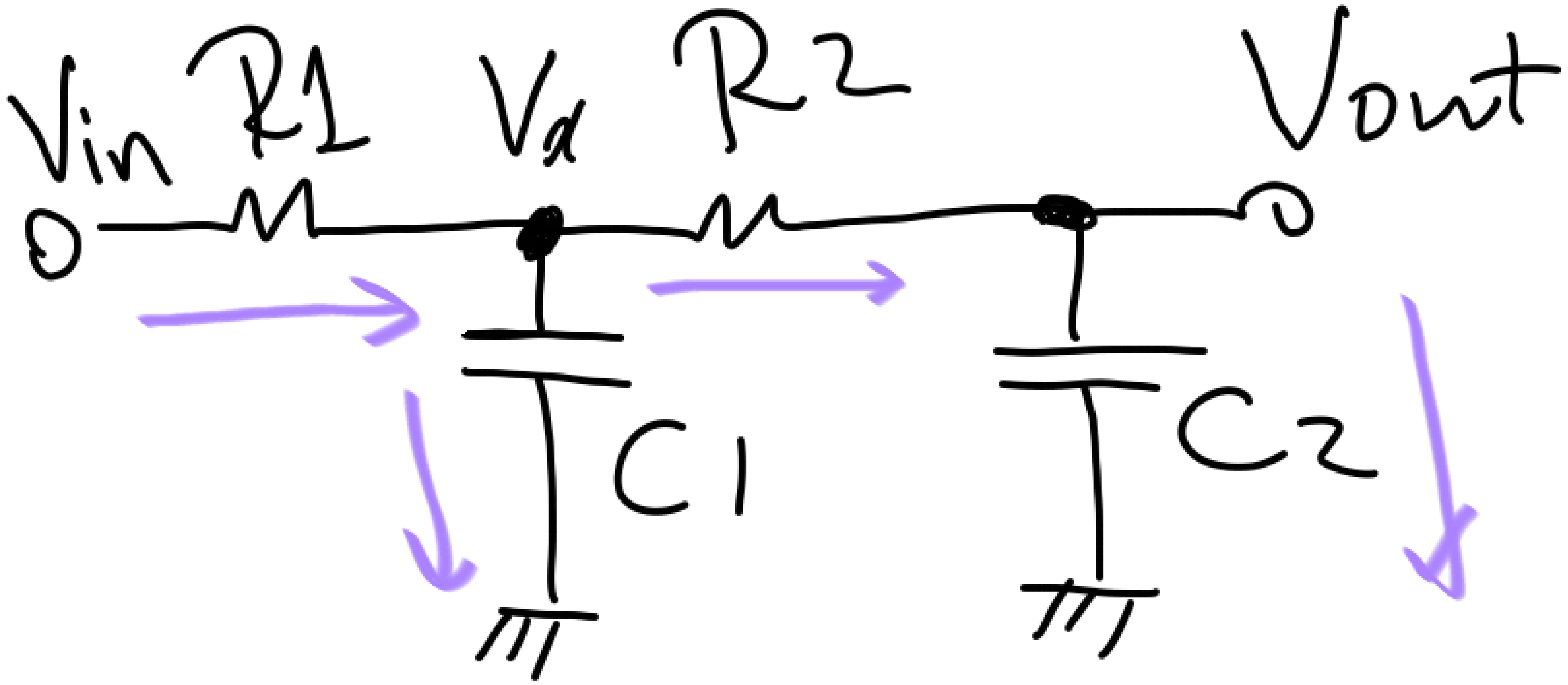
$A \uparrow\uparrow$



$V^+ = V^-$



Z2
Z1



node V_x

$$\frac{V_{in}-V_x}{R_1} = V_x\, sC_1 + \frac{V_x - V_{out}}{R2} \rightarrow (1)$$

$$\frac{V_x - V_{out}}{R2} = V_{out} * sC2 \rightarrow (2)$$

$$\frac{V_x}{R2} = \frac{V_{out}}{R2} + V_{out}\, sC_2$$

$$V_x = V_{out}(1 + sR_2C_2) \rightarrow (3)$$

Eq (1)

$$\frac{V_{in}}{R1} = V_x\left(\frac{1}{R1} + sC_1 + \frac{1}{R2}\right) - \frac{V_{out}}{R_2} \rightarrow (4)$$

Subst 3 in 4

$$\frac{V_{in}}{R1} = V_{out}(1+sC_2R_2)\left(\frac{R1+R2+sC_1R_1R_2}{R1\,R2}\right) - \frac{V_{out}}{R2}$$

$$\frac{V_{in}}{\cancel{R1}} = V_{out}\left[\frac{(1+sC_2R_2)(R1+R2+sC_1R_1R_2) - R1}{\cancel{R1}\,R2}\right]$$

$$\frac{V_{out}}{V_{in}}$$

$$TF = -\frac{Z_2}{Z_1}$$

$$Z_2 = R_2 \parallel \frac{1}{sC_2}$$

$$Z_2 = \frac{R_2}{sC_2R_2+1} = \frac{R_2/sC_2 \times sC_2}{R_2 + \frac{1}{sC_2} \times sC_2}$$

$$Z_1 = R_1 + \frac{1}{sC_1} = \frac{sC_1R_1+1}{sC_1}$$

$$TF = \frac{-R_2}{1+SC_2R_2} * \frac{SC_1}{1+SC_1R_1}$$