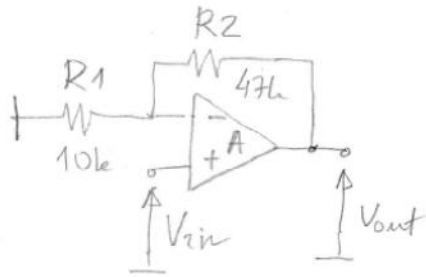


1.



$$V_+ = V_{in}$$

$$V_- = \frac{R_1}{R_1 + R_2} V_{out}$$

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

$$V_{out} = A \left(V_{in} - \frac{R_1}{R_1 + R_2} V_{out} \right)$$

$$V_{out} \left(1 + \frac{A R_1}{R_1 + R_2} \right) = A V_{in}$$

$$\frac{V_{out}}{V_{in}} = \frac{A}{1 + A \cdot \frac{R_1}{R_1 + R_2}} = \frac{22}{1 + 22 \cdot \frac{10}{10 + 47}} = \underline{4,53 = A_v}$$

2.

