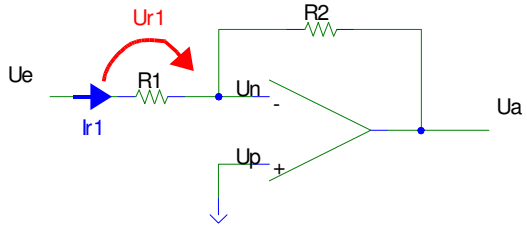


$$U_P = 0$$

$$U_N = -U_{RI} + U_e$$

$$U_N = -I_{RI} * R_1 + U_e$$

$$U_N = -\frac{U_e - U_a}{R_1 + R_2} * R_1 + U_e$$

$$U_d = U_P - U_N$$

$$U_d = (U_e - U_a) * \frac{R_1}{R_1 + R_2} - U_e$$

$$U_a = v * U_d$$

$$U_a = v * [(U_e - U_a) * \frac{R_1}{R_1 + R_2} - U_e]$$

$$U_a = v * U_e * (\frac{R_1}{R_1 + R_2} - 1) - v * Ua * \frac{R_1}{R_1 + R_2}$$

$$U_a * (1 + v * \frac{R_1}{R_1 + R_2}) = v * U_e * (\frac{R_1}{R_1 + R_2} - 1)$$

$$U_a = \frac{v * U_e * (\frac{R_1}{R_1 + R_2} - 1)}{(1 + v * \frac{R_1}{R_1 + R_2})}$$

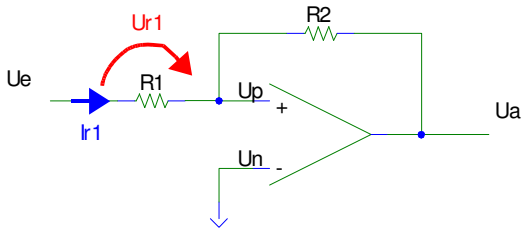
$$U_a = \frac{v * U_e * R_1 - v * U_e * (R_1 + R_2)}{R_1 * (v + 1) + R_2}$$

$$U_a = \frac{-v * U_e * R_2}{R_1 * (v + 1) + R_2}$$

mit $v \to \infty$ *gilt :*

$$U_a = \lim_{v \to \infty} \frac{-v * U_e * R_2}{R_1 * (v + 1) + R_2}$$

$$\underline{\underline{U_a = -U_e * \frac{R_2}{R_1}}}$$



$$U_N = 0$$

$$U_P = -U_{RI} + U_e$$

$$U_P = -I_{RI} * R_1 + U_e$$

$$U_P = -\frac{U_e - U_a}{R_1 + R_2} * R_1 + U_e$$

$$U_d = U_P - U_N$$

$$U_d = U_e - (U_e - U_a) * \frac{R_1}{R_1 + R_2}$$

$$U_a = v * U_d$$

$$U_a = v * [U_e - (U_e - U_a) * \frac{R_1}{R_1 + R_2}]$$

$$U_a = v * U_e * (1 - \frac{R_1}{R_1 + R_2}) + v * Ua * \frac{R_1}{R_1 + R_2}$$

$$U_a * (1 - v * \frac{R_1}{R_1 + R_2}) = v * U_e * (1 - \frac{R_1}{R_1 + R_2})$$

$$U_a = \frac{v * U_e * (1 - \frac{R_1}{R_1 + R_2})}{(1 - v * \frac{R_1}{R_1 + R_2})}$$

$$U_a = \frac{v * U_e * (R_1 + R_2) - v * U_e * R_1}{R_1 * (1 - v) + R_2}$$

$$U_a = \frac{v * U_e * R_2}{R_1 * (1 - v) + R_2}$$

mit $v \to \infty$ *gilt :*

$$U_a = \lim_{v \to \infty} \frac{v * U_e * R_2}{R_1 * (1 - v) + R_2}$$

$$\underline{\underline{U_a = -U_e * \frac{R_2}{R_1}}}$$