



$$V_P = V_N = 0$$

$$V_A = 0 = V_N$$

$$\text{Node A: } -\frac{V_A - V_{in}}{R_1} - \frac{V_A - V_{out}}{R_2} - i_N = 0$$

$$i_N = 0$$

$$-\frac{0 - V_{in}}{R_1} - \frac{0 - V_{out}}{R_2} - 0 = 0$$

$$\frac{V_{in}}{R_1} + \frac{V_{out}}{R_2} = 0$$

$$\rightarrow V_{out} = -\frac{R_2}{R_1} V_{in}$$