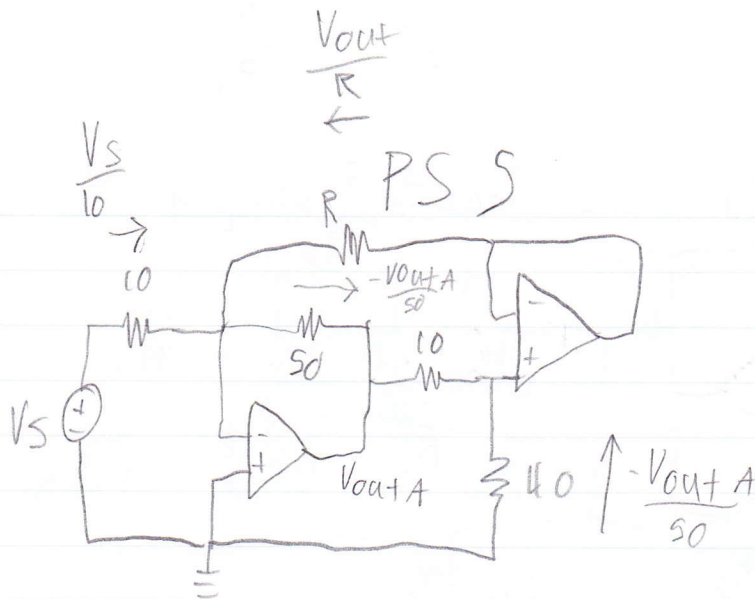


5.7



$$\frac{V_s}{10} + \frac{V_{out}}{R} = \frac{-V_{out}}{40}$$

$$\frac{V_{out}}{R} = -V_{out} \left(\frac{1}{R} + \frac{1}{40} \right)$$

$$\frac{V_{out} A}{50} = \frac{V_{out}}{40}$$

$$\frac{V_{out}}{V_s} = \frac{-\frac{1}{10}}{\frac{1}{R} + \frac{1}{40}}$$

$$\frac{V_{out} A}{50} \cdot 40 = V_{out}$$

$$V_{out} A = \frac{5}{4} V_{out}$$

$$G(R) = \frac{V_{out}}{V_s} = \frac{-4R}{40 + R}$$

$$G(\infty) = -4 \quad G(0) = 0$$

$$-3 = \frac{-4R}{40 + R} \cdot 1$$

$$-120 - 3R = -4R$$

$$-120 = -R$$

$$R = 120 \text{ k}\Omega$$