(2) R_x @ right side $\rightarrow$ $\overline{V_{Rx}} = \sqrt{4KTR_x\Delta f}$

$\Rightarrow$ $V_{(C)}$ due to R_x at right side

$$= \frac{R_L}{R_o + R_L}\overline{V_{Rx}} = \frac{1}{2}\overline{V_{Rx}}$$

$\Rightarrow$ noise power across R_L due to R_x at right side

$$P_L\Big|_{\text{due to } R_x} = \frac{1}{R_L}\left(\frac{R_L}{R_o+R_L}\right)^2 \overline{V_{Rx}}^2$$

$$= \frac{1}{4R_o}\overline{V_{Rx}}^2 = KT\Delta f \frac{R_x}{R_o}$$

(3) $R_y \longrightarrow \overline{V_{Ry}} = \sqrt{4KTR_y\Delta f}$

$$\Rightarrow V_{(B)} = \frac{\frac{1}{2}(R_o + R_x)}{R_y + \frac{1}{2}(R_o+R_x)}\overline{V_{Ry}}$$

$$\Rightarrow V_{(C)} = \frac{R_L \times V_{(B)}}{R_x + R_L} = \frac{R_o}{R_x+R_o}\,\frac{R_o+R_x}{2R_y+R_o+R_x}\overline{V_{Ry}}$$

$$= \frac{R_o}{2R_y+R_o+R_x}\overline{V_{Ry}}$$

$\Rightarrow$ noise power across R_L due to R_y

$$P_L\Big|_{\text{due to } R_y} = \frac{1}{R_o}\left(\frac{R_o}{2R_y+R_o+R_x}\right)^2 \overline{V_{Ry}}^2$$

$$= \frac{\overline{V_{Ry}}^2}{4R_o}\left(\frac{2R_o}{2R_y+R_o+R_x}\right)^2 = KT\Delta f \frac{R_y}{R_o}\left(\frac{2R_o}{2R_y+R_o+R_x}\right)^2$$

$$= \frac{R_y}{R_o}\left(\frac{2R_o}{2R_y+R_x+R_o}\right)^2$$