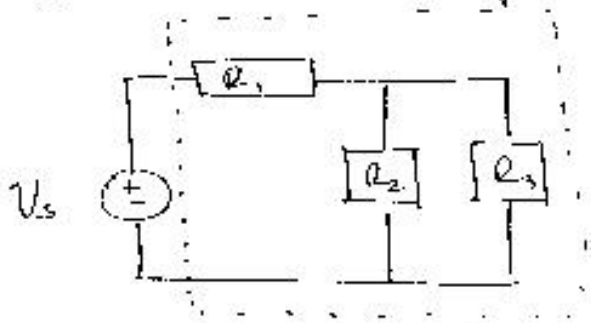
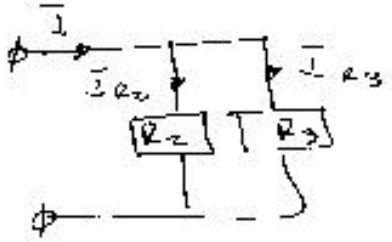


$$V_{R_1} = 10\,e^{6\bar{I}_{R_1}}\ [V]$$

$$V_{R_2} = 5\,e^{10\bar{I}_{R_2}}\ [V]$$

$$V_{R_3} = 20\,e^{15\bar{I}_{R_3}}\ [V]$$



$$V_{R_2} = V_{R_3} \triangleq V$$

$$\bar{I} = \bar{I}_{R_2} + \bar{I}_{R_3}$$

$$10\,\bar{I}_{R_2} = \ln\frac{V_{R_2}}{5}$$

$$\bar{I}_{R_2} = \frac{1}{10}\ln\frac{V}{5}$$

$$\bar{I}_{R_3} = \frac{1}{15}\ln\frac{V}{20}$$

$$\bar{I} = \bar{I}_{R_2} + \bar{I}_{R_3} = \frac{1}{10} \ln \frac{V}{5} + \frac{1}{15} \ln \frac{V}{20} =$$

$$= \frac{1}{10} \ln V - \frac{1}{10} \ln 5 + \frac{1}{15} \ln V - \frac{1}{15} \ln 20 =$$

$$= \frac{1}{6} \ln V - 0.36 \simeq$$

$$\simeq \frac{1}{6} \ln V - \frac{1}{6} \ln 8.6 =$$

$$= \frac{1}{6} \ln \frac{V}{8.6}$$

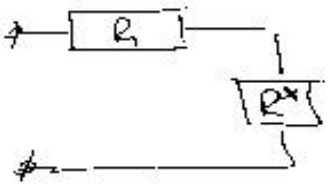
(1)

$$\bar{I} = \frac{1}{6} \ln \frac{V}{8.6}$$

$$6\bar{I} = \ln \frac{V}{8.6}$$

$$\frac{V}{8.6} = e^{6\bar{I}}$$

$$V_{R_x} = 8.6\, e^{6\bar{I}}$$



$$V_1 = V_{R_1} + V_{R^*}$$

$$\bar{I}_{R_1} = \frac{\bar{I}}{(1)} e^{*} = \bar{I}$$

$$V = 8.6\, e^{6\bar{I}} + 10\, e^{6\bar{I}} = 18.6\, e^{6\bar{I}}$$

$$100 = 18.6\, e^{6\bar{I}}$$

$$6\bar{I}_{e_1} = \ln \frac{100}{18.6}$$

$$\bar{I}_{R_1} = \frac{1}{6} \ln \frac{100}{18.6} \approx 0.28[A]$$

$$V_{e_1} = 10\, e^{6\bar{I}_{e_1}} = 10\, e^{6 \cdot 0.28} = 53.65[V]$$

$$V_{e_2} = V_{e_3} = V_S - V_{e_1} = 100 - 53.65 = 46.34[V]$$

$$\bar{I}_{e_2} = \frac{1}{10} \ln \frac{V_{e_2}}{5} = 0.222[A]$$

$$\bar{I}_{e_3} = \frac{1}{13} \ln \frac{V_{e_3}}{20} = 0.056[A]$$

$$\bar{I}_{e_1} \overset{?}{=} \bar{I}_{e_2} + \bar{I}_{e_3}$$

[illegible] R_1, R_2, R_3 :

$\underline{t>0}$

$$V_1(t) = I_1(t) \cdot \sin(t)$$

$$V_2(t) = I_2(t)\, 2\cos(t)$$

$$V_3(t) = I_3(t) \cdot e^{-t}$$

[illegible] ?

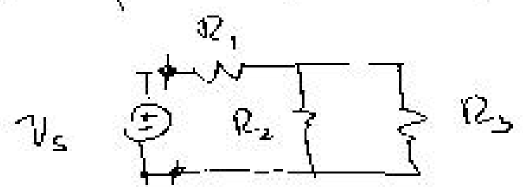
[illegible]

$t = t_0$

$$R_i \triangleq \frac{V_i(t)}{I_i(t)} = \sin(t_0)$$

[illegible]

[illegible]



$$R_{eq} = R_1 + R_2 \| R_3 = R_1 + \frac{R_2 R_3}{R_2 + R_3} =$$

$$= \sin(t) + \frac{2\cos(t) e^{-t}}{2\cos t + e^{-t}}$$