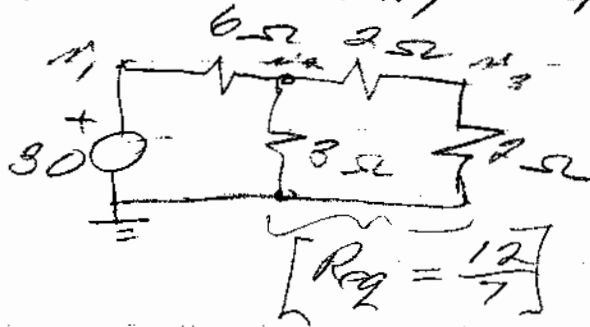


Problem 2.8 using superposition

Voltage Source



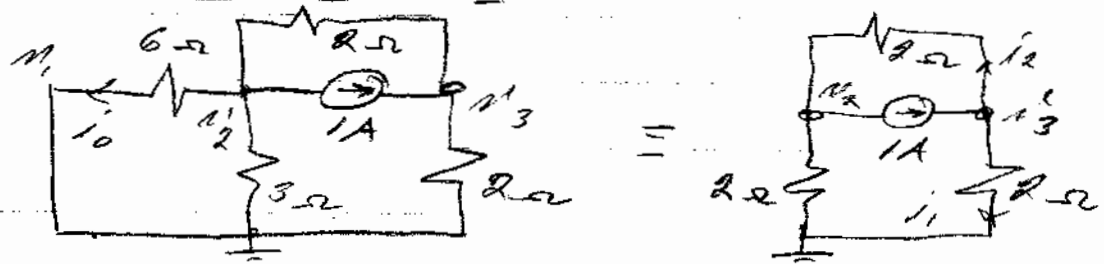
$$n_1 = 30$$

voltage division

$$v_{o,d_2} = 30 \frac{\frac{12}{7}}{\frac{12}{7} + 15} = 30 \frac{12}{54} = \frac{20}{3}$$

$$n_3 = n_2 \frac{2}{4} = \frac{90}{27} = \frac{10}{3}$$

Current Source



$$i_1 = 1 \times \frac{2}{6} = \frac{1}{3} A ; i_2 = 1 \times \frac{1}{6} = \frac{2}{3} A$$

$$\therefore n_3 = 2i_1 = \frac{2}{3} V ; n_2 = -\frac{2}{3} V ; n_1 = 0$$

So the results are

$$\left. \begin{aligned} n_1 &= 30 \\ n_2 &= \frac{20}{3} - \frac{2}{3} = \frac{18}{3} = 6V \\ n_3 &= \frac{10}{3} + \frac{2}{3} = 4V \end{aligned} \right\} \leftarrow$$