Sheet No. 2

Problems

1-.For the network in Fig. 1:

a. Determine currents I_4 and I_s and voltage V_2.

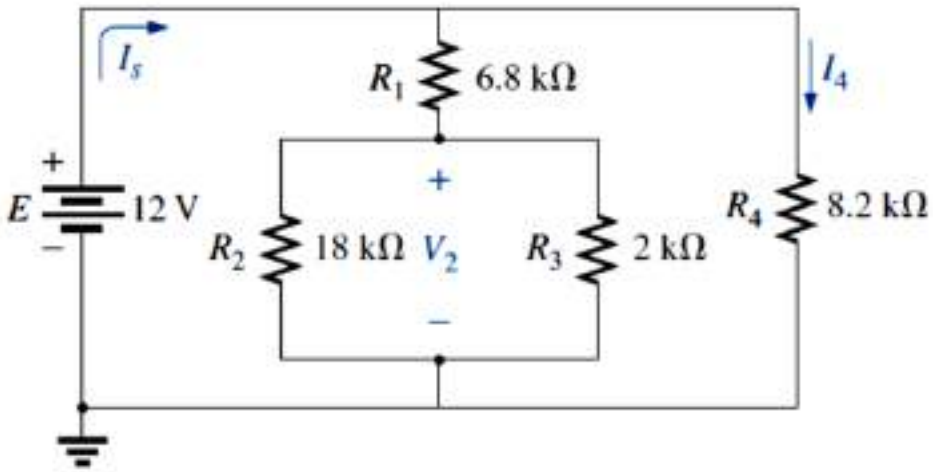

Fig. 1

Answer: $I_4 = 1.64\ mA, I_s = 2.86\ mA, V_2 = 2.51\ V$

2- Find the indicated currents and voltages for the network in Fig. 2.

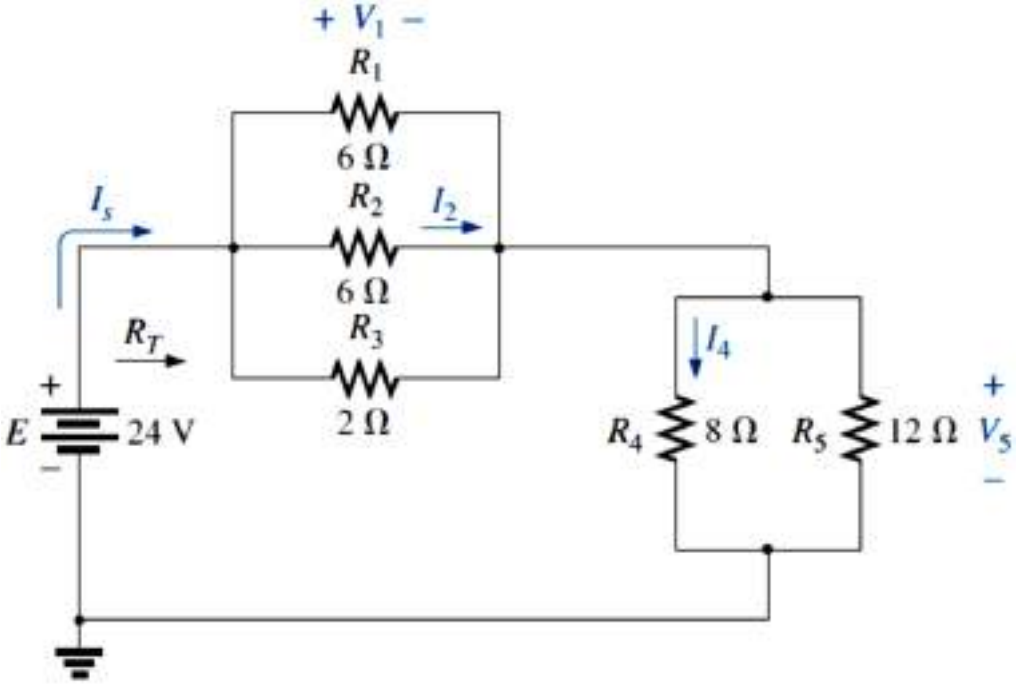

Fig. 2

Answer: $I_s = 4\ A, V_1 = 4.8\ V, V_5 = 19.2\ V, I_2 = 0.8\ A, I_4 = 2.4\ A$

3- Find the indicated currents and voltages for the network in Fig. 3.

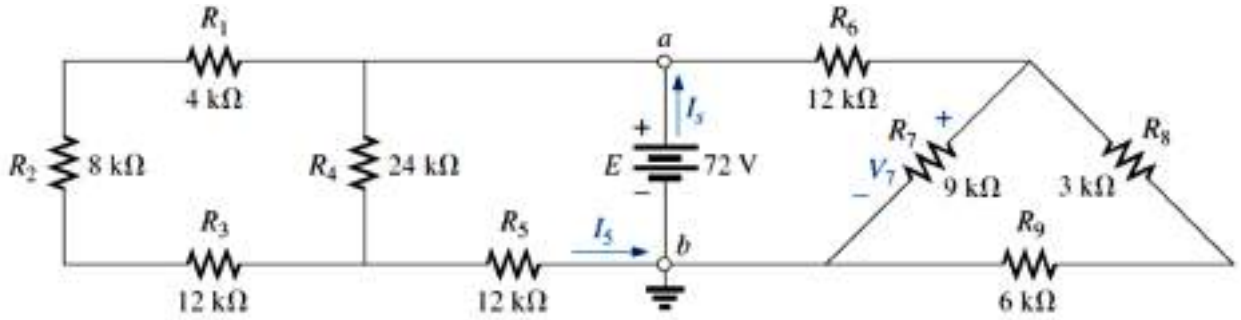

Fig. 3

***Answer*: $I_s = 7.35\ mA, V_7 = 19.6\ V, I_2 = 3\ mA$**

4- Determine R_{eq} for the networks in Fig. 4

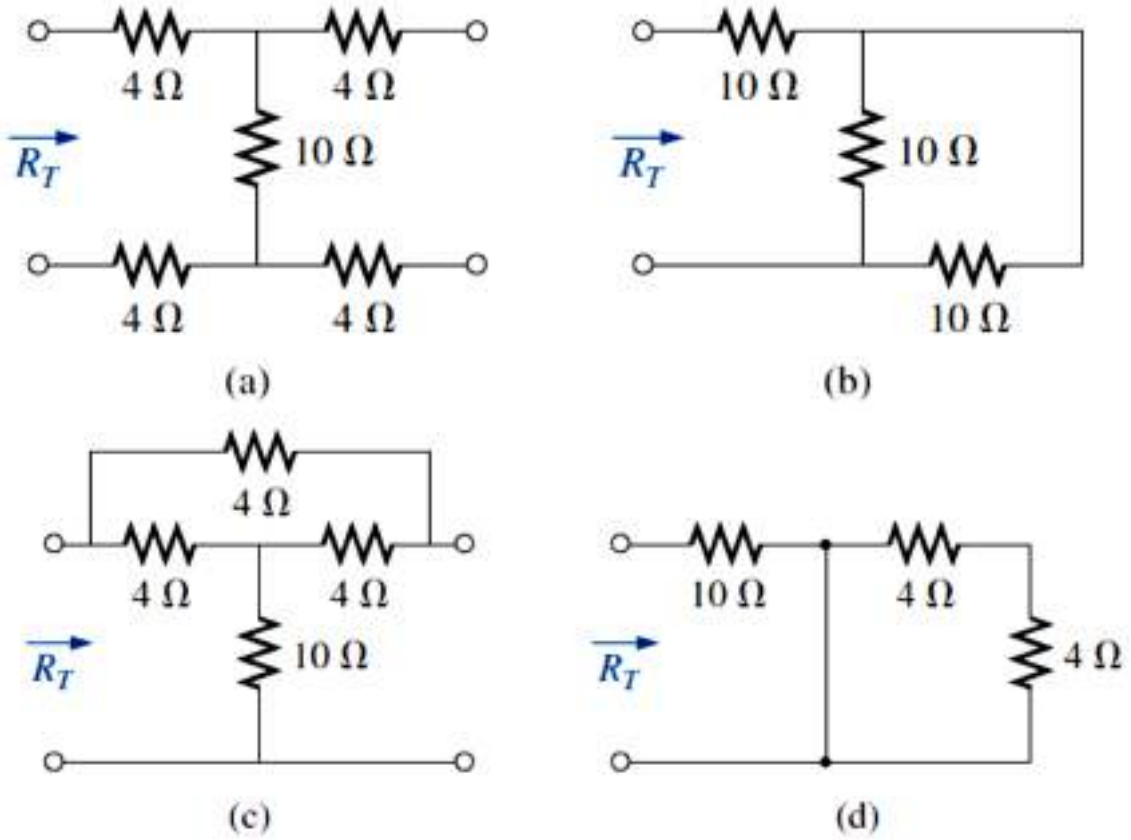

Fig. 4

***Answer*: $(a)\ 18\ \Omega, (b)\ 15\ \Omega, (c)\ 12.67\ \Omega, (d)\ 10\ \Omega,$**

5- For the network in Fig. 5:

a. Determine the currents I_s, I_1, I_3, and I_4.

b. Calculate V_{bc}.

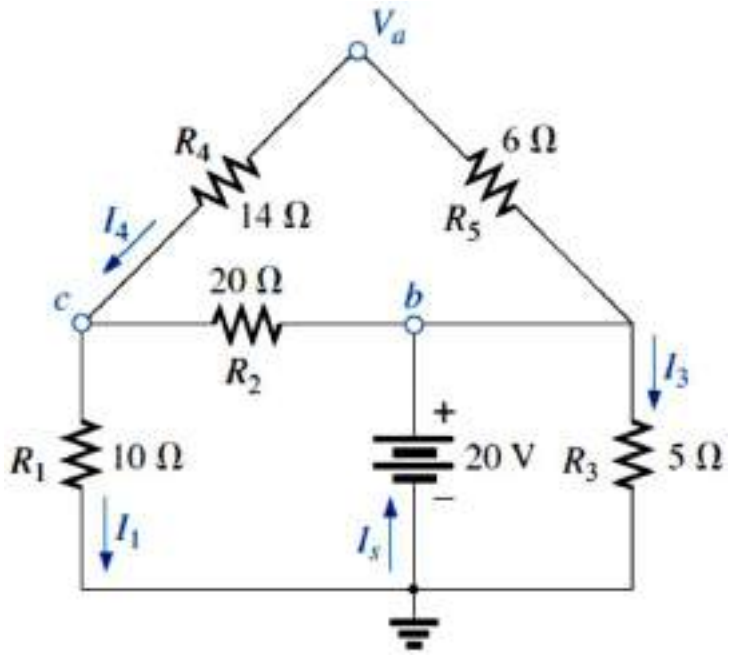

Fig. 5

Answer: $I_s = 5\ A, I_1 = 1\ A, I_3 = 4\ A, I_4 = 0.5\ A, V_{bc} = 10\ A,$

6- For the network in Fig. 6. Find R_{eq}, V_1 and V_2

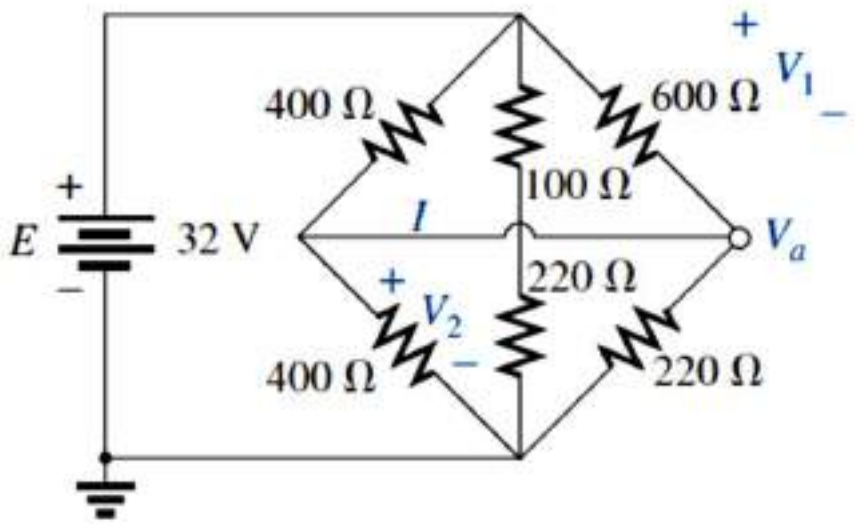

Fig. 6

Answer: $R_{eq} = 174.12\ \Omega, V_1 = 20.11\ V, V_2 = 11.89\ V$

7- For the network in Fig. 7. Find I, I_4, I_6 and I_{10}

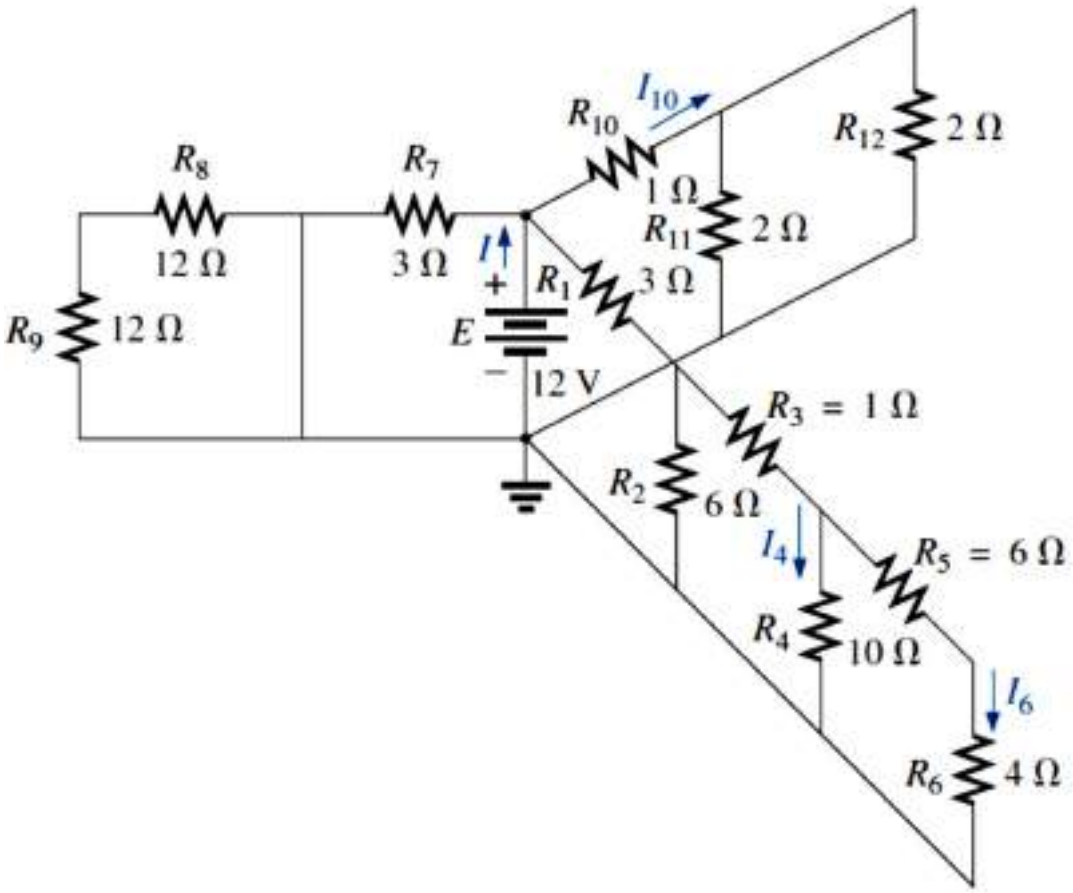

Fig. 7

$Answer: I = 12\ A, I_4 = 0.5\ A, I_6 = 0.5\ A, I_{10} = 6\ A$

8- For the network in Fig. 8, determine v_x and the power absorbed by the 12 Ω resistor.

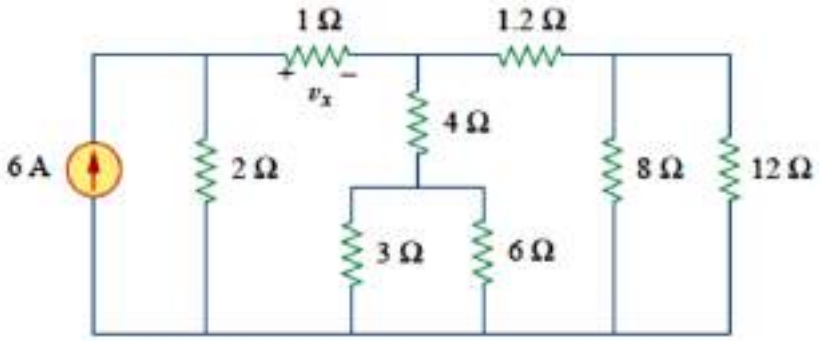

Fig. 8

$\boldsymbol{Answer: v_x = 2\ V, P = 1.92\ W}$

9- For the network in Fig.9 Find the current, voltage and power associated with the 20 kΩ resistor.

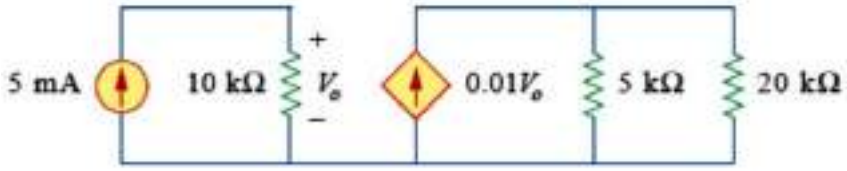

Fig. 9

$Answer: I_{20} = 0.1\ A, V_{20} = 2\ kV, P_{20} = 0.2\ kW$

10- For the network in Fig.10, Find i_1 through i_4

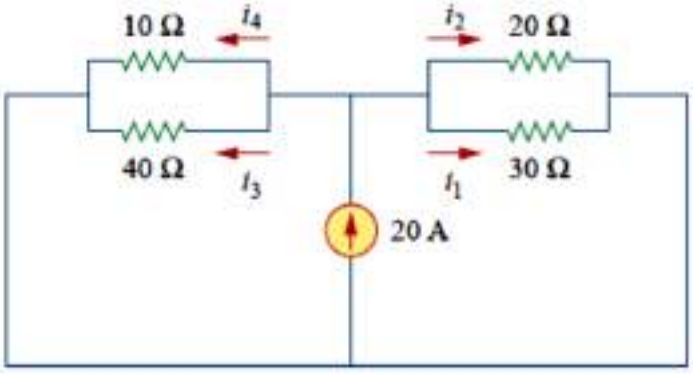

Fig. 10

$Answer: i_1 = 3.2\ A, i_2 = 4.8\ A,\ i_3 = 2.4\ A, i_4 = 9.6\ A$