

Q19// if the Potential difference between two points is 42 V. how much work is required to bring 6 C from one point to the other?

Sol

$$\begin{aligned} W &= QV \\ &= 6 \times 42 \\ &= 252 \text{ J} \end{aligned}$$

تفاوت پتانسیل
(tolerance)
(manufacturer's)

Q47 Page 94

Find the color code for the following 10% resistors:

a- 220 Ω , b- 4700 Ω , c- 68 k Ω

Sol

a- Red Red Brown Silver

b- Yellow Violet Red silver

c- Blue Gray orange Silver

23 page 209//

Q// a- Using the current divider rule, find the unknown currents for the network of fig.

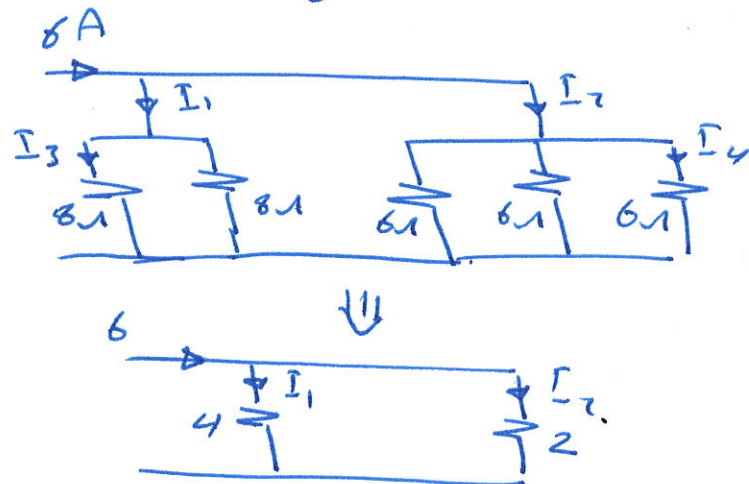
Sol

$$I_1 = 6 \times \left(\frac{2}{2+4} \right) = 2 \text{ A}$$

$$I_2 = 4 \text{ A}$$

$$I_3 = 2 \times \left(\frac{8}{8+8} \right) = 1 \text{ A}$$

$$I_4 = 1.333 \text{ A}$$



Prq/ For the network of Fig :

a- Determine the current I_1 .

b- Calculate the currents I_2 and I_3 .

c- Determine the voltage V_a and V_b .

Sol

$$R_T = \{((6 \parallel 6) + 3) \parallel 3\} + 3$$

$$R_T = 5 \Omega$$

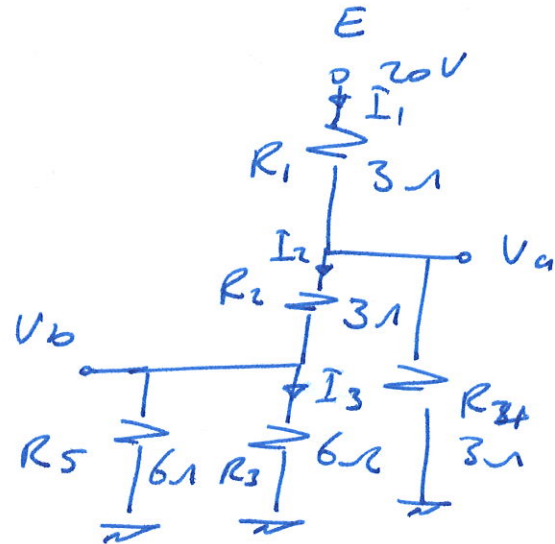
$$I_1 = \frac{E}{R_T} = \frac{20}{5} = 4 A$$

$$I_2 = 4 * \left(\frac{3}{3+6} \right) = 1.333 A$$

$$V_a = (4 - 1.333) * 3 \Omega = 8 V$$

$$I_3 = 1.333 * \left(\frac{6}{6+6} \right) = 0.66 A$$

$$V_b = 4 V$$



Q19, page 249

For the network of Fig; - determine R_T , V_1 , V_4 ,
 I_3 (with direction) and I_S .

$$R_T = ((16 \parallel 32) \parallel 4) \parallel (8 \parallel 16)$$

$$R_T = 1.882 \Omega$$

$$V_1 = 32 V$$

$$V_4 = 32 V$$

$$I_S = \frac{E}{R_T} = \frac{32}{1.882} = 17 A$$

$$I_3 = \frac{-V_4}{4 \Omega} = \frac{32}{4} = 8 A \leftarrow$$

