

$$I_2' = I_1' \cdot \frac{R_3}{R_2 + R_3} = 0,737 \text{ A} \cdot \frac{12 \Omega}{2 \Omega + 12 \Omega} = \underline{0,632 \text{ A}}$$

$$I_3' = I_1' \cdot \frac{R_2}{R_2 + R_3} = 0,737 \text{ A} \cdot \frac{2 \Omega}{2 \Omega + 12 \Omega} = \underline{0,105 \text{ A}}$$

b) $U_{q1} = 0 \text{ V}$

$$I_2'' = \frac{U_{q2}}{R_2 + \frac{R_1 R_3}{R_1 + R_3}} = \frac{U_{q2}}{R_2 + \frac{R_1 R_3}{R_1 + R_3}} = \frac{8 \text{ V}}{2 \Omega + \frac{10 \Omega \cdot 12 \Omega}{1 \Omega + 12 \Omega}}$$

$$\underline{I_2'' = 2,737 \text{ A}}$$

$$I_1'' = I_2'' \cdot \frac{R_3}{R_1 + R_3} = \underline{2,526 \text{ A}}$$

$$I_3'' = I_2'' \cdot \frac{R_2}{R_1 + R_3} = \underline{0,211 \text{ A}}$$

$$I_1 = I_1' - I_1''$$

$$I_1 = 0,737 \text{ A} - 2,526 \text{ A} = \underline{\underline{-1,789 \text{ A}}}$$

$$I_2 = -I_2' + I_2''$$

$$I_2 = -0,632 \text{ A} + 2,737 \text{ A} = \underline{\underline{2,105 \text{ A}}}$$

$$I_3 = I_3' + I_3''$$

$$I_3 = 0,105 \text{ A} + 0,211 \text{ A} = \underline{\underline{0,316 \text{ A}}}$$