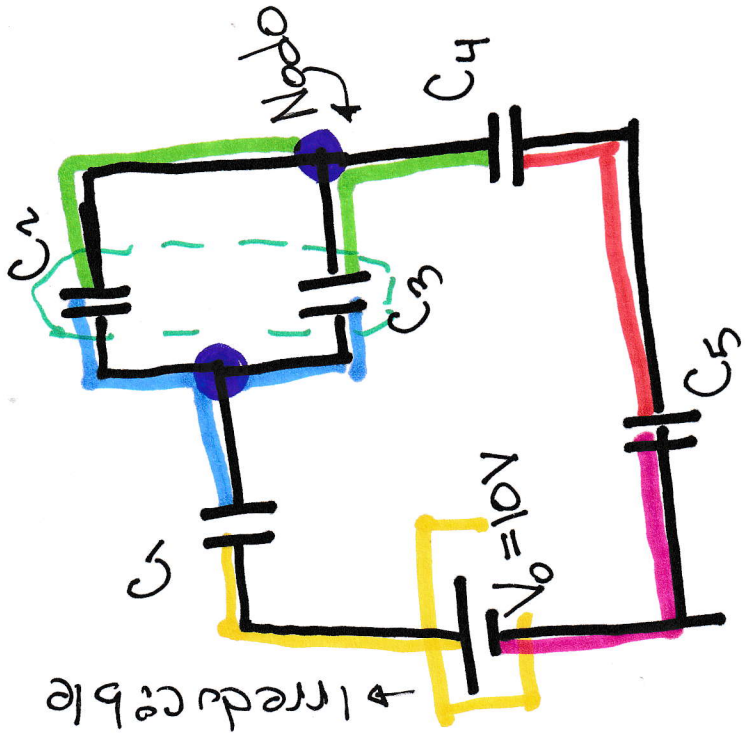


→ wired cable



$$C_1 = 1 \mu F, C_2 = 2 \mu F, C_3 = 2 \mu F$$

$$C_4 = 3 \mu F, C_5 = 4 \mu F, V_0 = 10V$$

$$C_{23} = C_2 + C_3 = 2 + 2 = 4 \mu F$$

$$V_{\frac{V_0}{2}} = \frac{1}{2} C_{eq} V_0^2 = \frac{1}{2} \left(\frac{6}{11} \times 10^{-6} \right) (10)^2 = 27.27 \times 10^{-6} J$$

$$C_{eq} = \left(\frac{1}{C_1} + \frac{1}{C_{23}} + \frac{1}{C_4} + \frac{1}{C_5} \right)^{-1}$$

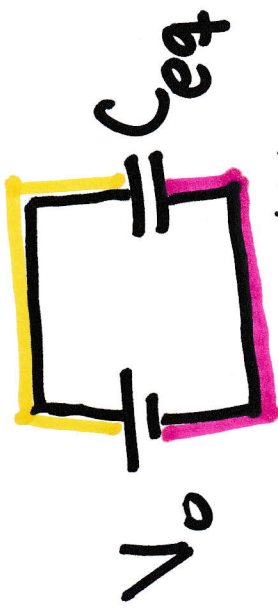
$$= \frac{6}{11} \mu F$$

$$C_{eq} = \left(\frac{1}{1} + \frac{1}{4} + \frac{1}{3} + \frac{1}{4} \right)^{-1}$$

$$C_{eq} = \frac{Q}{V_0}$$

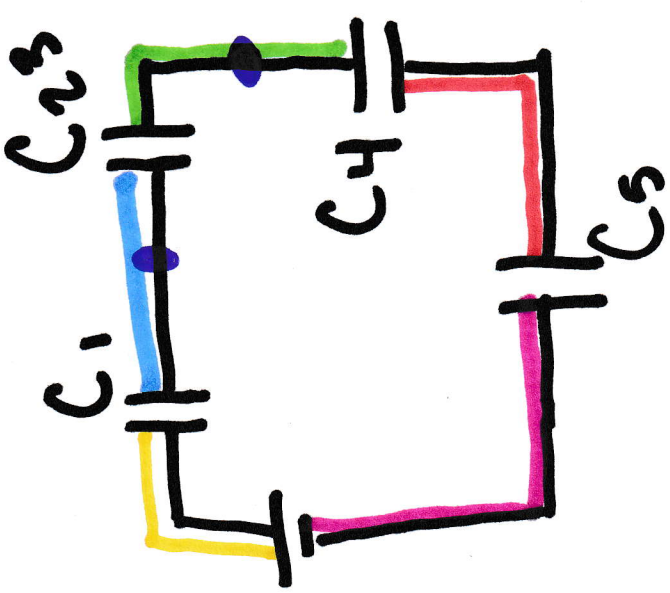
$$Q = C_{eq} V_0$$

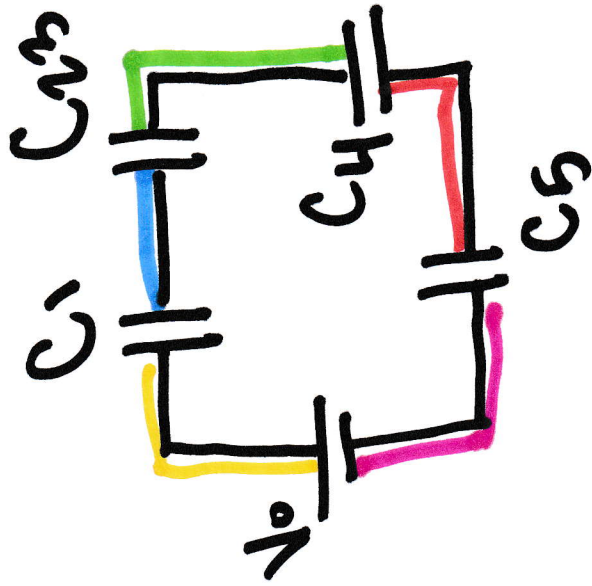
$$V_0 = 10V$$



$$Q = \left(\frac{6}{11} \times 10^{-6} \right) (10) = 5.45 \times 10^{-6} C$$

$$\approx 5.45 \mu C$$





$$Q = q_1 = q_5 = q_4 = q_{23} = 5.45 \times 10^{-6} \text{ C}$$

$$V_1 = \frac{q_1}{C_1} = \frac{(5.45 \times 10^{-6})}{1 \times 10^{-6}} = 5.45 \text{ V}$$

$$V_4 = \frac{q_4}{C_4} = \frac{(5.45 \times 10^{-6})}{3 \times 10^{-6}} = 1.82 \text{ V}$$

$$V_5 = \frac{q_5}{C_5} = \frac{(5.45 \times 10^{-6})}{4 \times 10^{-6}} = 1.36 \text{ V}$$

$$V_{23} = \frac{q_{23}}{C_{23}} = \frac{5.45 \times 10^{-6}}{4 \times 10^{-6}} = 1.36 \text{ V}$$

$$V_{23} = V_2 = V_3 = 1.36 \text{ V}$$

$$q_2 = C_2 V_2 = (2 \times 10^{-6})(1.36) = 2.72 \times 10^{-6} \text{ C}$$

$$q_3 = C_3 V_3 = (2 \times 10^{-6})(1.36) = 2.72 \times 10^{-6} \text{ C}$$

