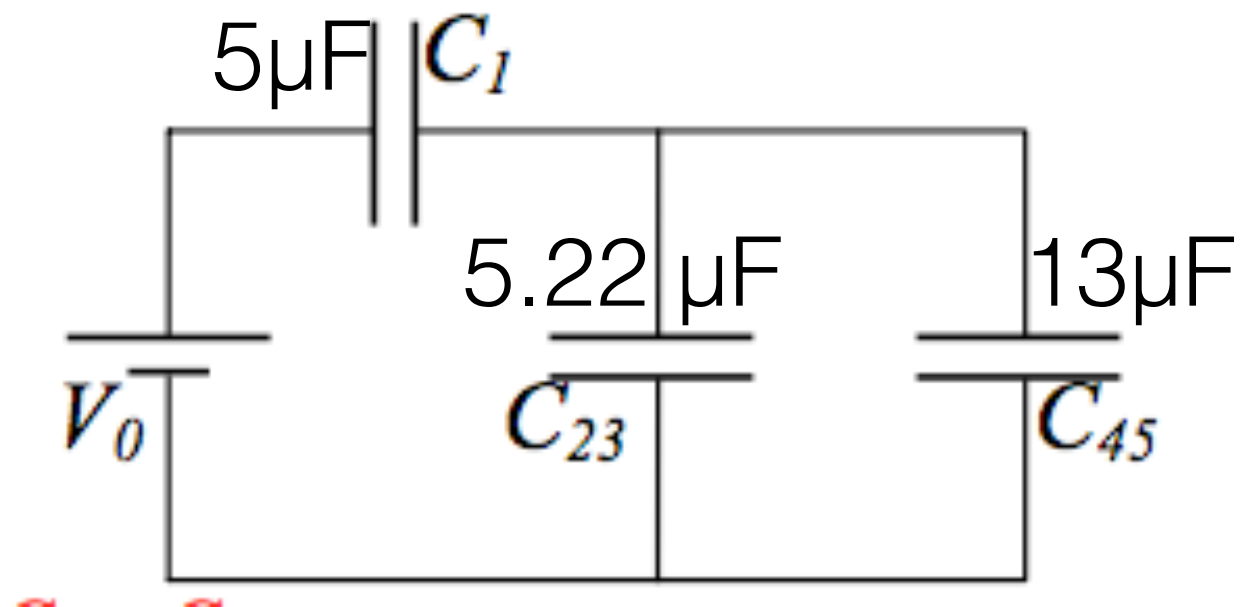
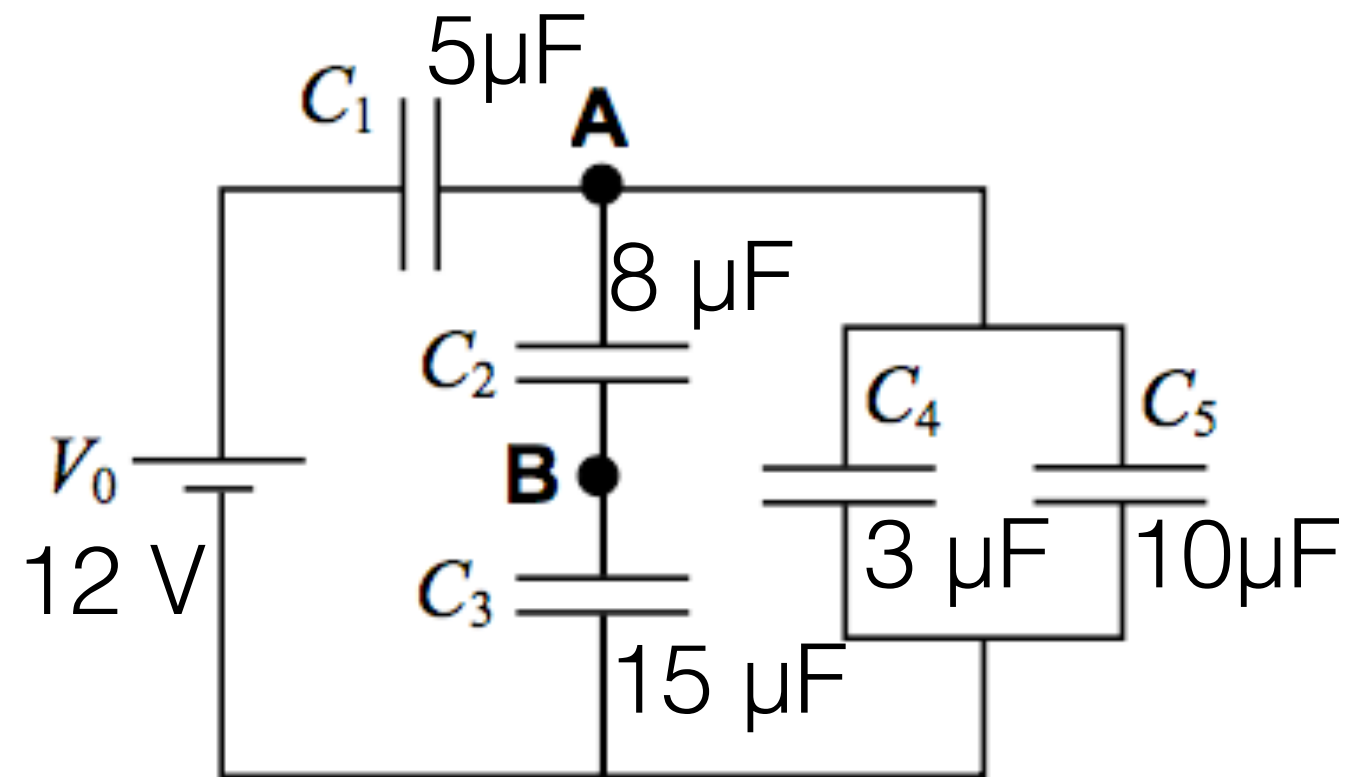
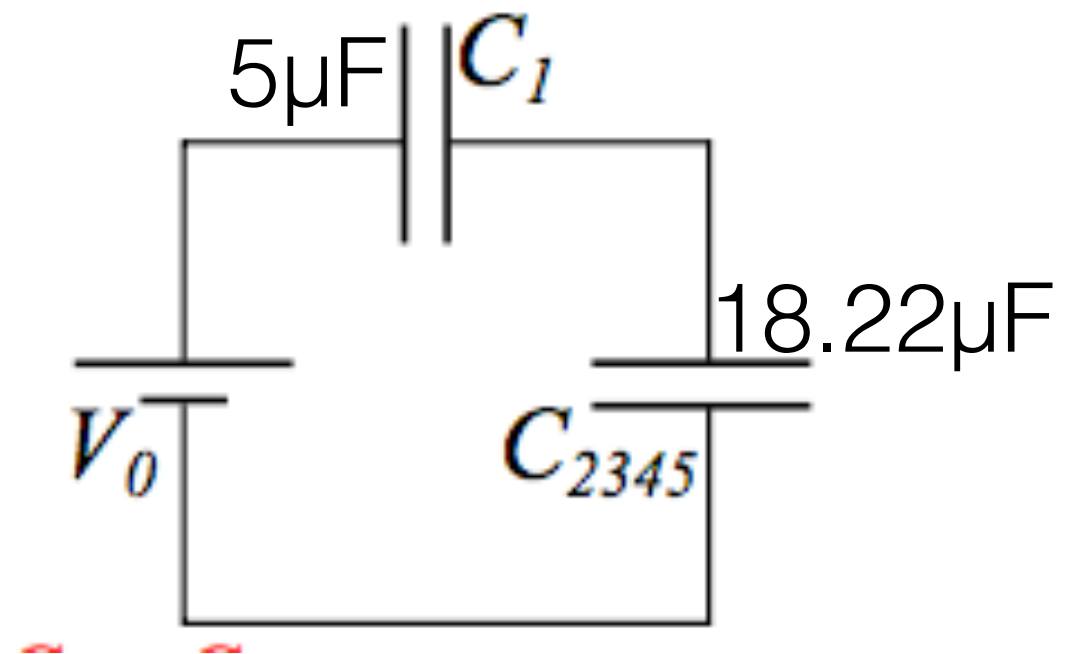
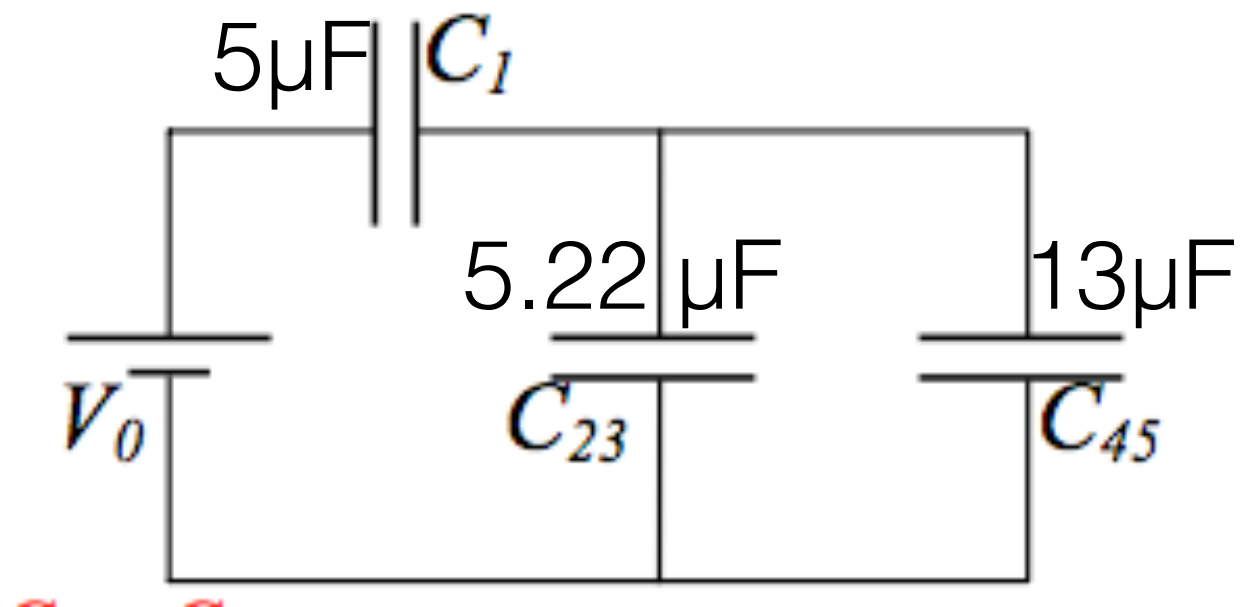


Capacitor Network

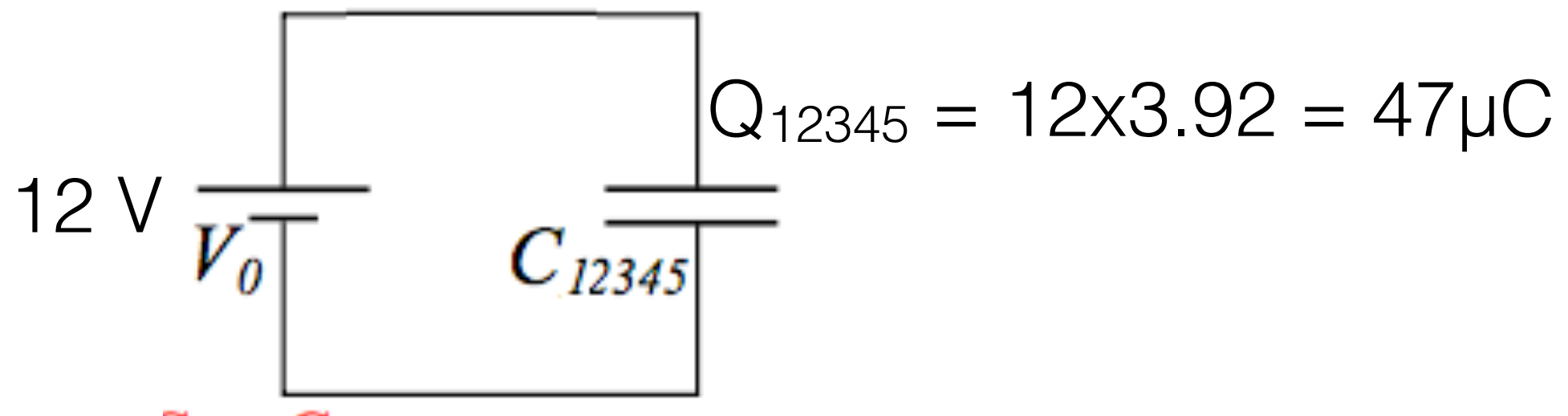
What is V at A and B? Reduce the circuit step by step.



$$C_{23} = C_2 C_3 / (C_2 + C_3) = 5.22 \mu\text{F}$$

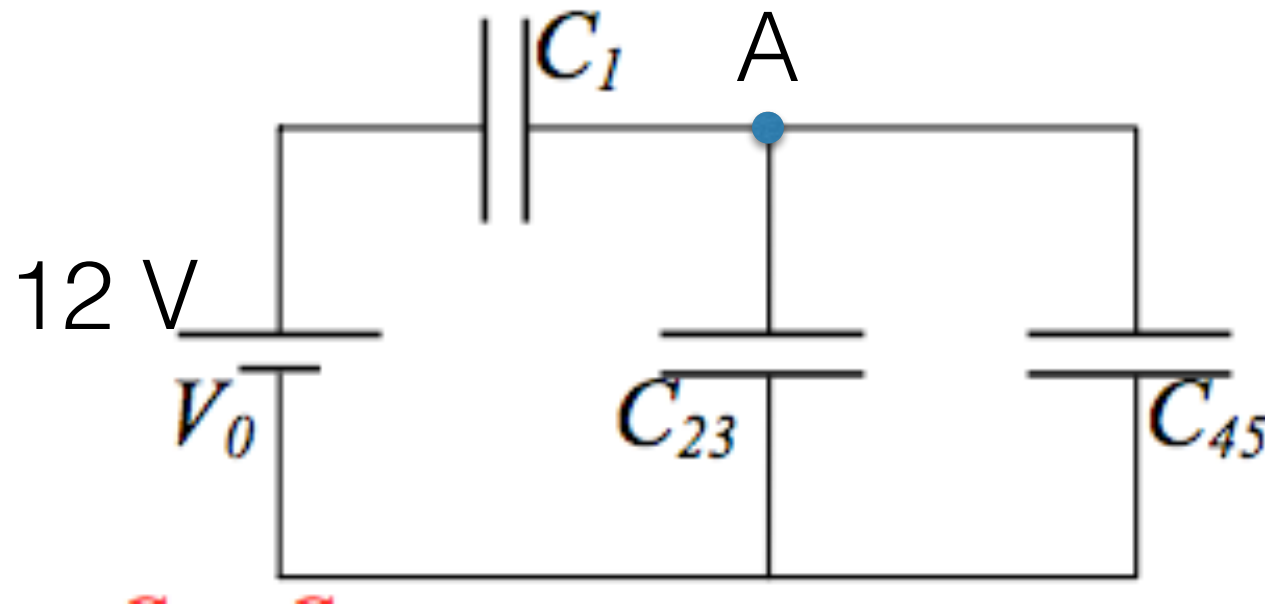


$$C_{12345} = C_1 C_{2345} / (C_1 + C_{2345}) = 3.92 \mu\text{F}$$



Now reconstruct the original circuit.

$$Q_1 = Q_{12345} = 47\mu\text{C}$$



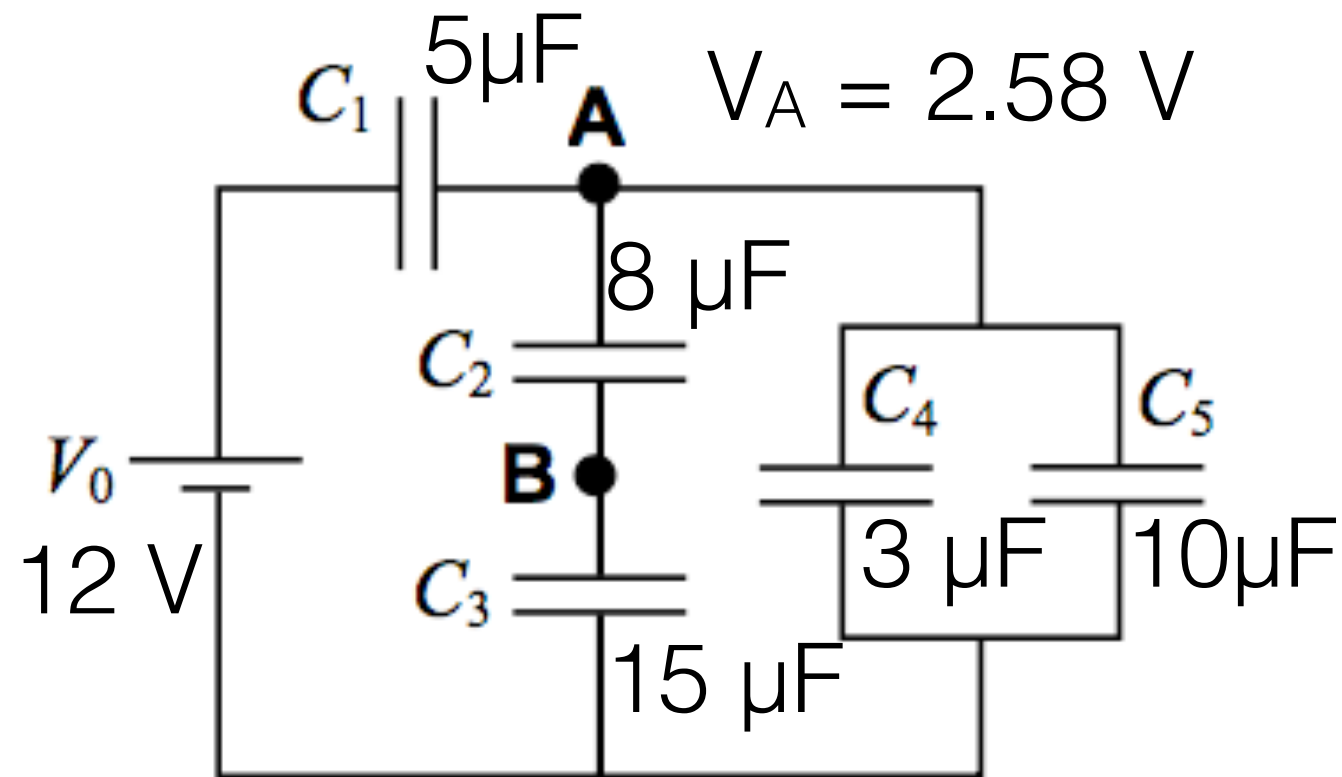
$$Q_1 = 47\ \mu\text{C}$$

$$V_1 = Q_1/C_1 = 9.42\ \text{V}$$

$$V_A = 12 - 9.42 = 2.58\ \text{V}$$

$$Q_{23} = C_{23}\Delta V_{23} = 5.22\ \mu\text{F} (2.58\ \text{V}) = 13.47\ \mu\text{C}$$

$$Q_{45} = C_{45}\Delta V_{45} = 13\ \mu\text{F} (2.58\ \text{V}) = 33.54\ \mu\text{C}$$



$$Q_{23} = C_{23} \Delta V_{23} = 5.22 \mu\text{F} (2.58 \text{ V}) = 13.47 \mu\text{C}$$

$$Q_{45} = C_{45} \Delta V_{45} = 13 \mu\text{F} (2.58 \text{ V}) = 33.54 \mu\text{C}$$

$$Q_2 = Q_{23}$$

$$V_B = \Delta V_3 = Q_{23} / C_3 = 13.47 \mu\text{C} / 15 \mu\text{F} = 0.9 \text{ V}$$

Capacitor Network

Is it clear?

- A. Very Clear
- B. Still have Questions
- C. Don't understand