

P #34b

b) V is equal to 36 V for any capacitors connected in parallel.

For C_1 :

$$V_1 = 36\text{ V}$$
$$C_1 = 4.0\text{ }\mu\text{F}$$

$$Q_1 = C_1 \cdot V_1$$
$$= (4.0\text{ }\mu\text{F})(36\text{ V})$$

$$Q_1 = 144\text{ }\mu\text{C}$$

For C_2 :

$$V_2 = 36\text{ V}$$
$$C_2 = 2.0\text{ }\mu\text{F}$$

$$Q_2 = C_2 \cdot V_2$$
$$= (2.0\text{ }\mu\text{F})(36\text{ V})$$

$$Q_2 = 72\text{ }\mu\text{C}$$

For C_{34} :

$$V_{34} = 36\text{ V}$$
$$C_{34} = 6.0\text{ }\mu\text{F}$$

$$Q_{34} = C_{34} \cdot V_{34}$$
$$= (6.0\text{ }\mu\text{F})(36\text{ V})$$

$$Q_{34} = 216\text{ }\mu\text{C}$$

Q_3 and Q_4 are both equal to Q_{34}

so

$$Q_3 = Q_4 = 216\text{ }\mu\text{C}$$