

73. (a) After reducing the pair of $4\mu\text{F}$ capacitors to a series equivalence of $2\mu\text{F}$, we have three $2\mu\text{F}$ capacitors in the upper right portion of the circuit all in parallel – and thus equivalent to $6\mu\text{F}$. In the lower right portion of the circuit are two $3\mu\text{F}$ capacitors in parallel, equivalent also to $6\mu\text{F}$. These two $6\mu\text{F}$ equivalent-capacitors are then in series, so that the full reduction leads to an equivalence of $3.0\mu\text{F}$.
- (b) With 20 V across the result of part (a), we have a charge equal to $q = CV = (3.0\mu\text{F})(20\text{ V}) = 60\mu\text{C}$.