

Chapter 6, Solution 17.

- (a) $4F$ in series with $12F = 4 \times 12/(16) = 3F$
 $3F$ in parallel with $6F$ and $3F = 3+6+3 = 12F$
 $4F$ in series with $12F = 3F$
i.e. $C_{eq} = \mathbf{3F}$
- (b) $C_{eq} = 5 + [6 \times (4 + 2)/(6+4+2)] = 5 + (36/12) = 5 + 3 = \mathbf{8F}$
- (c) $3F$ in series with $6F = (3 \times 6)/9 = 2F$
$$\frac{1}{C_{eq}} = \frac{1}{2} + \frac{1}{6} + \frac{1}{3} = 1$$
$$C_{eq} = \mathbf{1F}$$