P #15 b

Ch 18 - pg 579

b) $R_{eq} = 35\,\Omega$

Combine 2 $50\,\Omega$ as in part a to get $25\,\Omega$

Combine 2 $20\,\Omega$ to get $10\,\Omega$

$$\frac{1}{R_p} = \frac{1}{R_3} + \frac{1}{R_4}$$

$$R_p^{-1} = (20\,\Omega)^{-1} + (20\,\Omega)^{-1}$$

$R_p = 10\,\Omega$ (Put R_3 & R_4 in parallel)

Combine R_{12} with R_{34} to get $35\,\Omega$

$$R_S = R_{12} + R_{34}$$

$$= 25\,\Omega + 10\,\Omega$$

$R_S = 35\,\Omega$ (Put R_{12} & R_{34} in series)