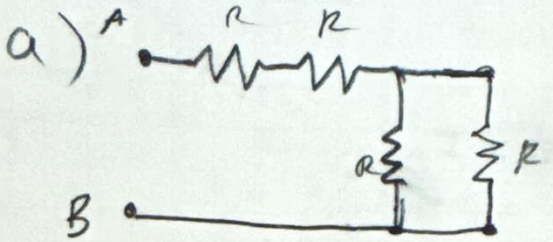
14)

a) 

$R = 2k\Omega$

$R_{target} = 5k\Omega$

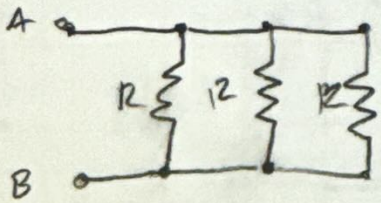
$R_{series} = 4k\Omega$

$R_{par} = \frac{1}{\frac{1}{2}+\frac{1}{2}} = 1k\Omega$

$R_{total} = R_S + R_p = 5k\Omega$

b) $R_{target} = 0.67\ k\Omega$

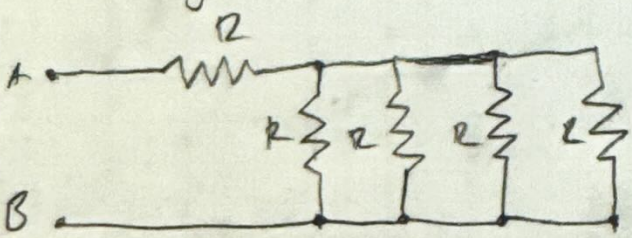
need $2/3\ k\Omega$



$R_{par} = \frac{1}{\frac{1}{2}+\frac{1}{2}+\frac{1}{2}} = \frac{1}{\frac{3}{2}} = \frac{2}{3}\ k\Omega$

$R_{par} = R_{target} = 0.67\ k\Omega$

c) $R_{target} = 2.5\ k\Omega$



$R_{par} = \frac{1}{\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}}$

$= \frac{1}{\frac{4}{2}} = \frac{1}{2}\ k\Omega$

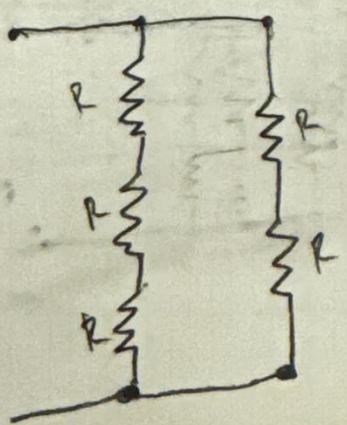
$R_S = 2k\Omega$

$R_{total} = R_S + R_p = 2 + 0.5\Omega$

$\Rightarrow 2.5\ k\Omega$

d) $R_{Target} = 2.4k\Omega$

need $\frac{12}{5}$ or $\frac{12}{5} = \frac{1}{\left(\frac{1}{6}+\frac{1}{4}\right)} = \frac{1}{\frac{5}{12}}$

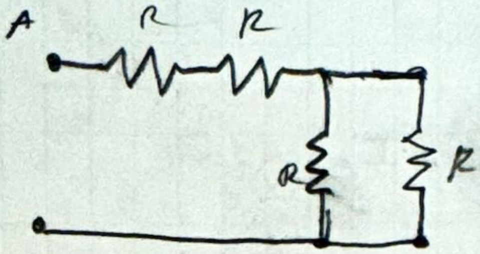


$R_{par} = \frac{1}{\frac{1}{6}+\frac{1}{4}} = \frac{12}{5} = 2.4k\Omega$

...ke Verlangieri | AA 320 HW1

14)

a)



$R = 2k\Omega$

$R_{target} = 5k\Omega$

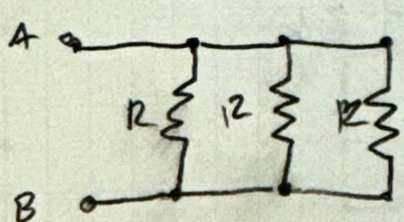
$R_{series} = 4k\Omega$

$R_{par} = \frac{1}{\frac{1}{2} + \frac{1}{2}} = 1k\Omega$

$R_{total} = R_S + R_P = 5k\Omega$

b) $R_{target} = 0.67\ k\Omega$

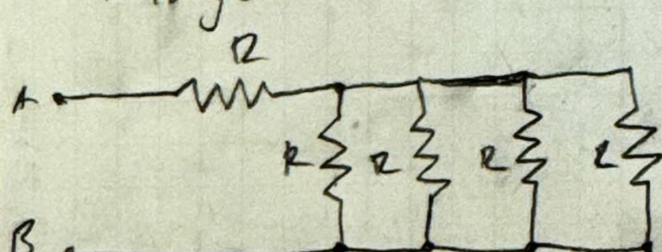
need $2/3\ k\Omega$



$R_{par} = \frac{1}{\frac{1}{2} + \frac{1}{2} + \frac{1}{2}} = \frac{1}{\frac{3}{2}} = \frac{2}{3}\ k\Omega$

$R_{par} = R_{target} = 0.67\ k\Omega$

c) $R_{target} = 2.5\ k\Omega$



$R_{par} = \frac{1}{\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}}$

$= \frac{1}{\frac{4}{2}} = \frac{1}{2}\ k\Omega$

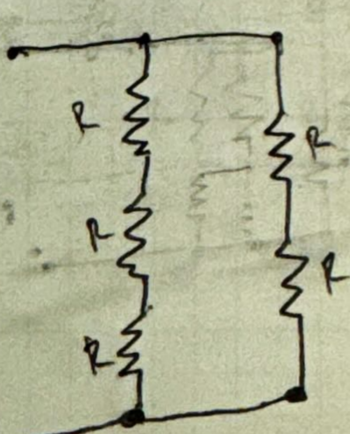
$R_S = 2k\Omega$

$R_{total} = R_S + R_P = 2 + 0.5\ \Omega$

$\rightarrow 2.5\ k\Omega$

d) $R_{Target} = 2.4\ k\Omega$

need $\frac{12}{5}$ or $\frac{12}{5} = \frac{1}{\left(\frac{1}{6} + \frac{1}{4}\right)} = \frac{1}{\frac{5}{12}} = \frac{12}{5}$



$R_{par} = \frac{1}{\frac{1}{6} + \frac{1}{4}} = \frac{12}{5} = 2.4\ k\Omega$