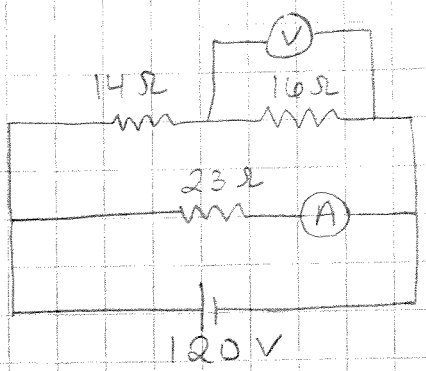
P # C

Ch 18 - Worksheet

a)



$R_1 = 23\,\Omega$
$R_2 = 14\,\Omega$
$R_3 = 16\,\Omega$

b) $V_1 = V_{eq} = 120\,V$

$R_1 = 23\,\Omega$

$V_1 = I_1 \cdot R_1$

$(120\,V) = I_1 \cdot (23\,\Omega)$

$\boxed{I_1 = 5.2\,A}$

c) $R_{23} = R_2 + R_3$

$= (14\,\Omega) + (16\,\Omega)$

$R_{23} = 30\,\Omega$

$V_{23} = V_{eq} = 120\,V$

$V_{23} = I_{23} \cdot R_{23}$

$(120\,V) = I_{23} \cdot (30\,\Omega)$

$I_{23} = 4\,A = I_2 = I_3$

$V_3 = I_3 \cdot R_3$

$= (4\,A)(16\,\Omega)$

$\boxed{V_3 = 64\,V}$