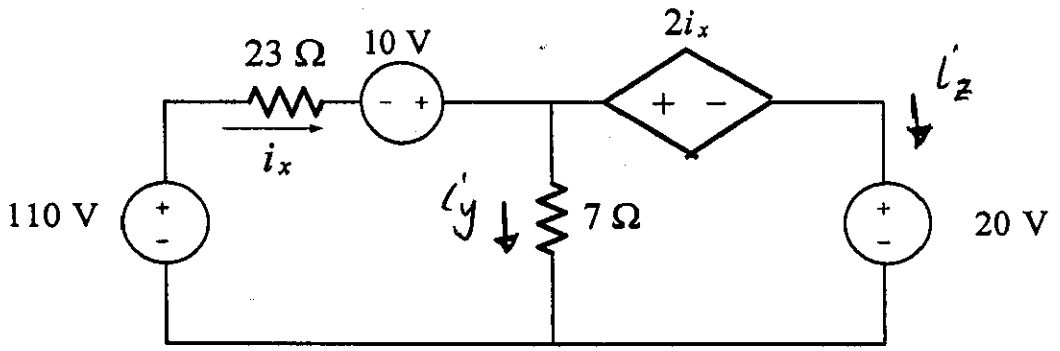
EE 201-02-Winter 2011(102)
QZ1

Sec	Ser	ID	Name KEY



For the circuit shown above, Find the power associated with the 20 V source and indicate if the power is absorb or deliver by the source

$P_{20V} = 20\, i_z \Rightarrow$ find i_z

KCL $\quad i_z = i_x - i_y \Rightarrow$ find i_x, i_y

KVL: $\quad -110 + 23 i_x - 10 + 2 i_x + 20 = 0$

$\Rightarrow i_x = 4\ A$

KVL: $\quad -7 i_y + 2 i_x + 20 = 0$

$-7 i_y + 2(4) + 20 = 0$

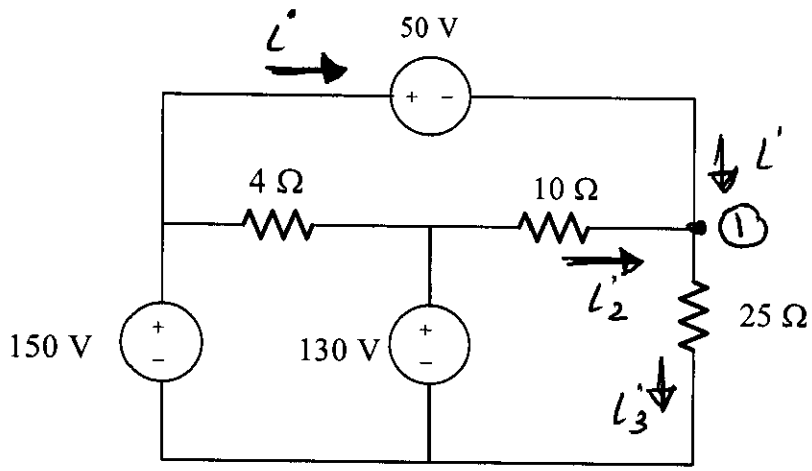
$\Rightarrow i_y = 4$

$\Rightarrow i_z = 4 - 4 = 0$

$\Rightarrow P_{20V} = 20(0) = 0\ W$ neither absorbed or delivered.

EE 201-01-Winter 2011(102)
QZ1

Sec	Ser	ID	Name KEY



For the circuit shown above, Find the power associated with the 50 V source and indicate if the power is absorb or deliver by the source

$P_{50V} = 50\,i \Rightarrow$ find i

KCL at (1) $\quad i = i_3 - i_2 \Rightarrow$ find i_3, i_2

KVL: $\quad -150 + 50 + 25 i_3 = 0 \Rightarrow i_3 = 4\,A$

KVL: $\quad -130 + 10 i_2 + 25 i_3 = 0 \Rightarrow i_2 = 3\,A$

$\Rightarrow \quad i = 4 - 3 = 1\,A$

$\Rightarrow \quad P_{50V} = (50)(1) = 50\,W$ absorbed