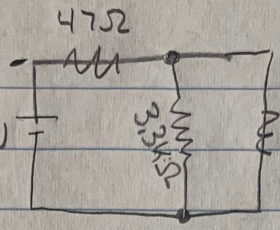
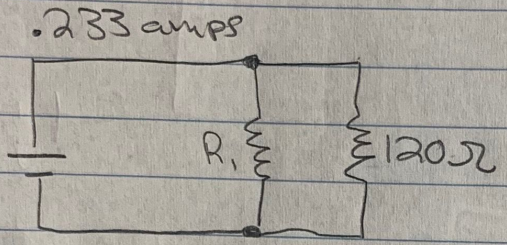


$R_T = 134.65\Omega$

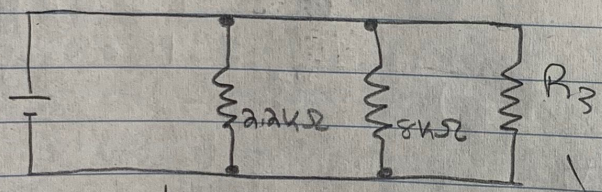
$I_T = 12V/134.65\Omega$

$= .089$ amps

$P_T = .089 \text{amps}(12V) = 1.068$ watts

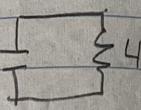


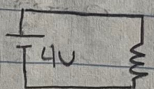
$$.233\text{amps} = \frac{12V}{\left(\frac{1}{R_1} + \frac{1}{120\Omega}\right)^{-1}} \Rightarrow R_1 = 90.22\Omega$$



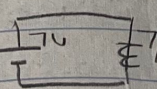
$$370\Omega = \frac{1}{2200\Omega} + \frac{1}{8000\Omega} + \frac{1}{R_3}$$

$R_3 = 470.99$

5.) 

6.) 

$I = 4V/2\Omega = 2$ amp

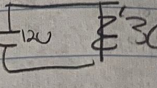
7.) 

$I = 7V\ \frac{3}{7} = 3$ amps

8.) $I = 6$ amps

$V = 12$ volts

$V_2 = 4$ volts

9.) 

$I = 12/30 = .4$ amps

10.) $I_T = .17$ amps

$I_{top} = .1$ amps

$I_{12} = .115$ amps

$R_{12+1} = 21.07 = 30\ \Omega$

11.) $I_2 = 1$

$I = 1.5$

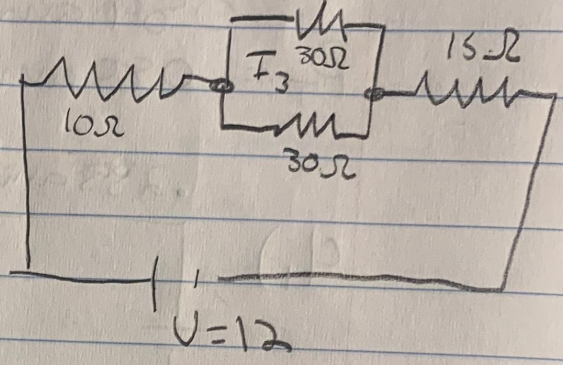
$R_3 = 6.7\Omega$

12.) $I = .2$ amps
$V = 6$ volts

13.) $I = .4$ amps
$V = 12$ volts

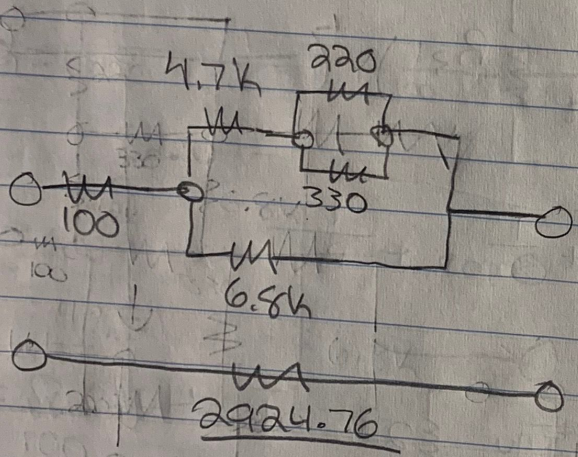
14.) $I_2 = 1/20$ amp
$R_1 = 120\,\Omega$

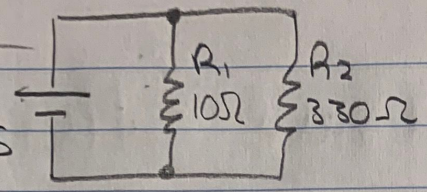
15.)

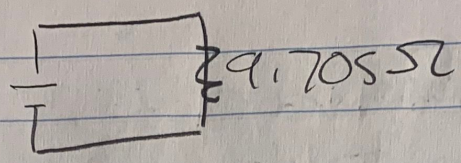


$R_T = 40\,\Omega$
$I_T = .3$ amps
$P = 4$ watts
$I_{R2} = .15$ amp

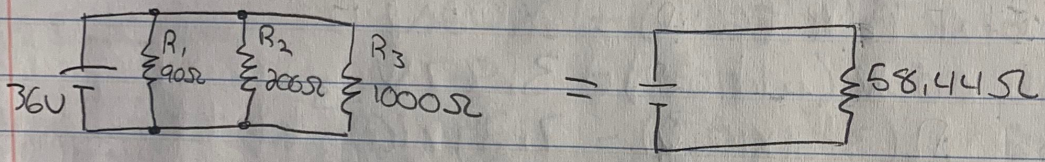
6.)



2.) 



$R_T = 9.705\Omega$
$I_T = 5V/9.7\Omega = .515$ amps
$I_{R1} = 5V/10\Omega =$ ~~2 amps~~ .5 amps
$I_{R2} = 5V/330\Omega = .015$ amps
$P_{R1} = 5V(.5) = 2.5$ watts
$P_{R2} = 5V(.015) = .075$ watts
$P_T = 5V(.515 amp) = 2.575$

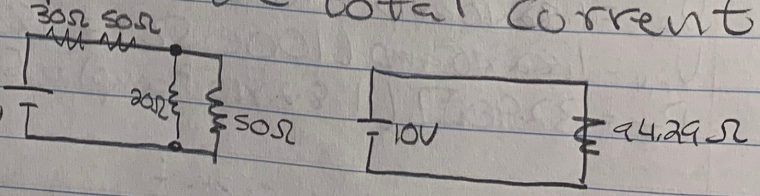


$R_T = 58.44\Omega$
$I_T = 36V/58.44\Omega = .616$ amps
$I_{R1} = 36V/90\Omega = .4$ amps
$I_{R2} = 36V/200\Omega = .18$ amps
$I_{R3} = 36V/1000\Omega = .036$ amps
$P_T = 36V(.616 amps) = 22.176$ watts

It is smaller. That makes sense because we are adding inverse values so when combined it is going to be less then the numbers at the highest.

Yes they add up to the total currents.

3.) $R_T = 94.29\Omega$
$I_T = 10/94.29\Omega$
$= .106$ amp
$P_T = 10V(.106 amp) = 1.06$ watts



John Proctor
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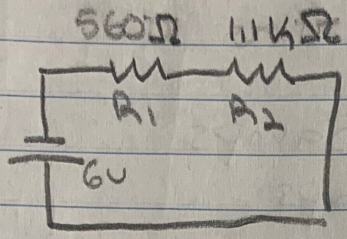
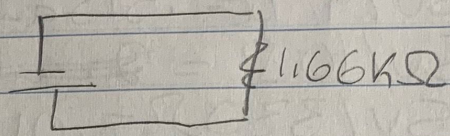
1.)





$R_T = 1.66 K\Omega$

$I_T = 6V / 1660\Omega = 3.61 mamp$

$V_{R1} = 3.61 \times 10^{-3} amp (560\Omega) = 2.02V$

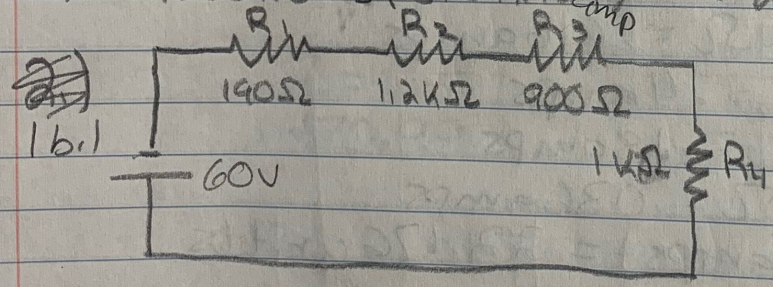
$V_{R2} = 3.61 \times 10^{-3} amp (1.1 \times 10^{3}\Omega) = 3.97V$

$P_{R1} = 560\Omega (3.61 \times 10^{-3} amp) = 7.29 \times 10^{-3} watt$

$P_{R2} = 1.1 \times 10^{3}\Omega (3.61 \times 10^{-3} amp) = 1.43 \times 10^{-2} watt$

$P_T = 1.66 \times 10^{3}\Omega (3.61 \times 10^{-3} amp)^2 = 2.16 \times 10^{-2} watt$

1b.)



$R_T = 3290\Omega$

$I_R = 60V / 3290\Omega = 1.82 \times 10^{-2} amp$

$V_{R1} = 1.82 \times 10^{-2} amp (190\Omega) = 3.458 V$

$V_{R2} = 1.82 \times 10^{-2} amp (1.2 \times 10^{3}\Omega) = 21.84 V$

$V_{R3} = 1.82 \times 10^{-2} amp (900\Omega) = 16.38 V$

$V_{R4} = 1.82 \times 10^{-2} amp (1000\Omega) = 18.2 V$

$P_T = 3290\Omega (1.82 \times 10^{-2} amp)^2 = 59.87 watt$