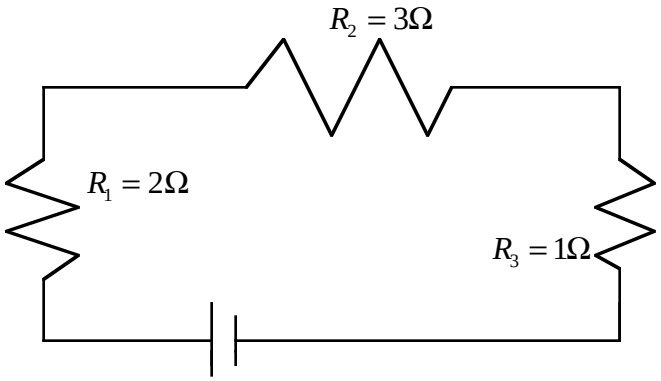
1.



36V

Find

$R_T = ?$

$I_T = ?$

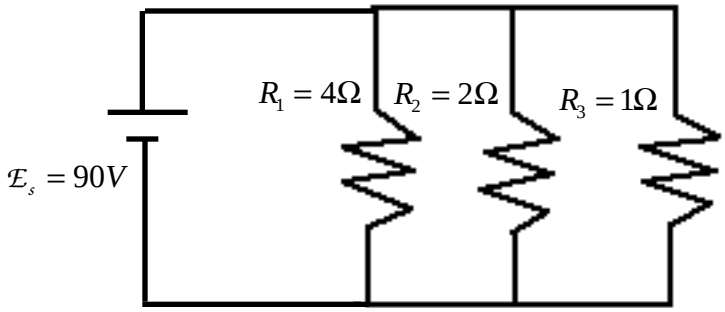
$V_1 = ?$ $I_1 = ?$

$V_2 = ?$ $I_2 = ?$

$V_3 = ?$ $I_3 = ?$

(16 *pts* – 2 *pts each*)

2.



Find

$R_T = ?$

$I_T = ?$

$V_1 = ?$ $I_1 = ?$

$V_2 = ?$ $I_2 = ?$

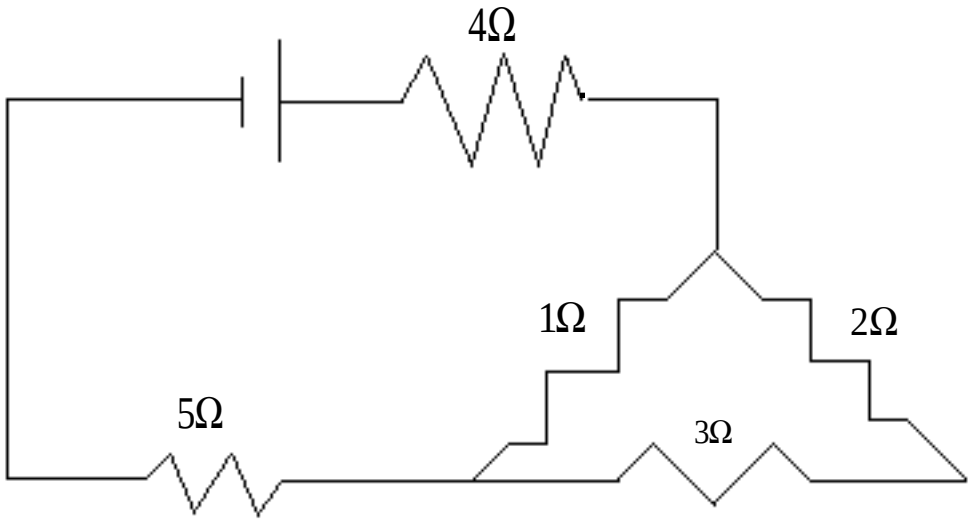
$V_3 = ?$ $I_3 = ?$

(16 *pts* – 2 *pts each*)

3.

Find R_T or R_{EQ}

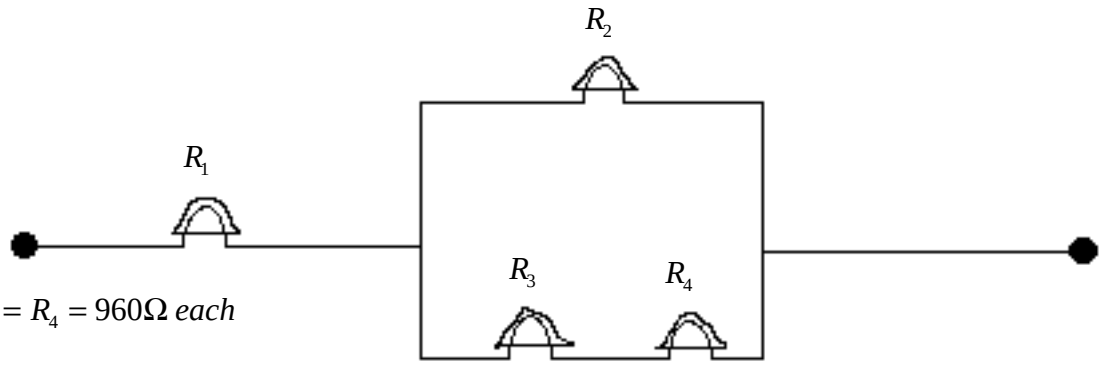
(8 pts)



4. What is the resistance in the filament of a "100W" lightbulb rated at 120V?
Show your work.

(8 pts)

5.



$R_1 = R_2 = R_3 = R_4 = 960\Omega$ *each*

(*a*) Find R_T

(15 pts - 3 pts each)

(*b*) Which bulb(s) is the brightest?

(*c*) If lightbulb #4 (or R_4) is loosened from its socket, which bulb(s) is the brightest?

(*d*) If lightbulb #2 is removed, which bulb is the brightest?

(e) If lightbulb #1 is unscrewed, which bulb is brightest?

6. **IF** the total voltage across the above resistor combination is 120V and
$R_1 = 3\Omega$, $R_2 = 6\Omega$, $R_3 = 4\Omega$, *and* $R_4 = 2\Omega$,

(16 pts)

Find

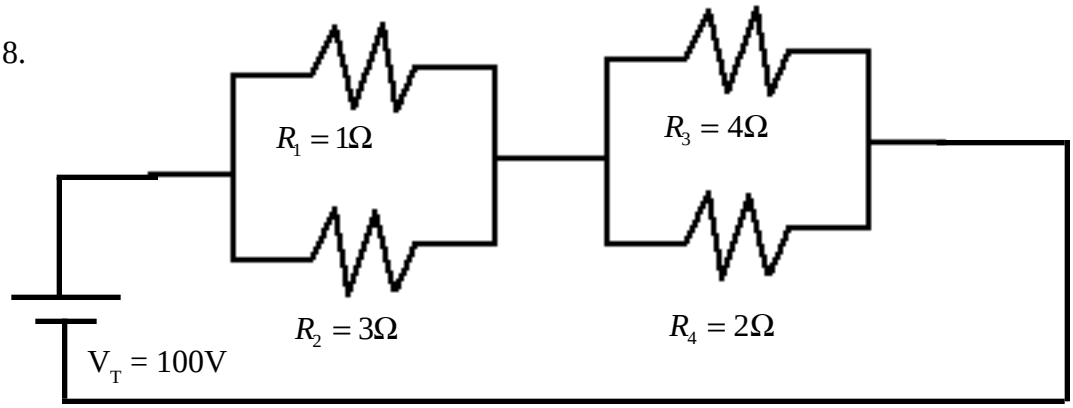
$R_T = ?$	$V_1 = ?$	$I_1 = ?$
$I_T = ?$	$V_2 = ?$	$I_2 = ?$
	$V_3 = ?$	$I_3 = ?$
	$V_4 = ?$	$I_4 = ?$

7. Match the following numbers with one letter (only).

(15pts - 3 pts each)

1. Power Supply	a. flow rate
2. Resistance	b. energy
3. Voltage	c. friction
4. Current	d. water pump
5. Power	e. potential
	f. work/time

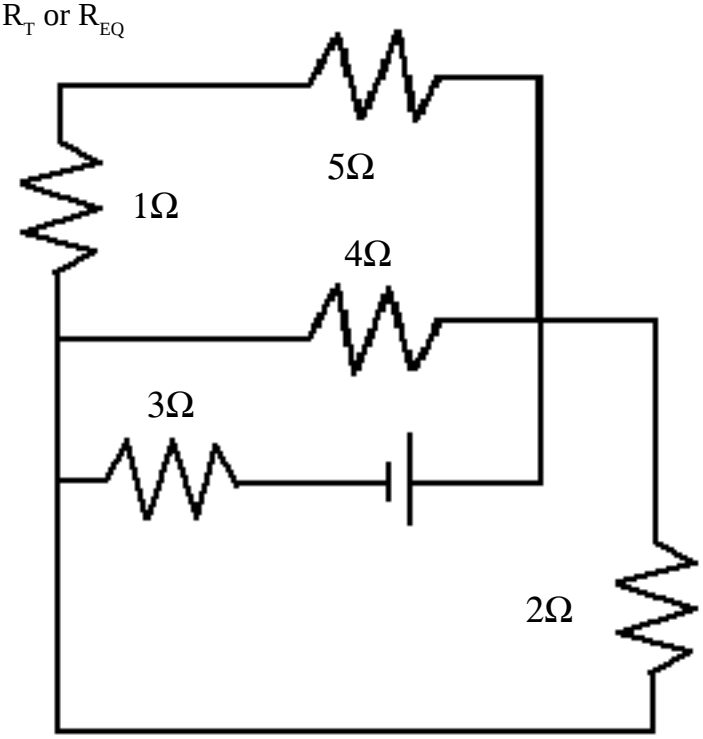
8.



Find

$R_T = ?$	$V_1 = ?$	$I_1 = ?$	(16 pts)
$I_T = ?$	$V_2 = ?$	$I_2 = ?$	
	$V_3 = ?$	$I_3 = ?$	
	$V_4 = ?$	$I_4 = ?$	

9. Find R_T or R_{EQ} (8 pts)



10. Find R_T (8 pts)