

SECTION 1

1. THEORETICAL QUANTITIES

	Resistor	Resistance Ω	Current A	Voltage V
/21	R_1	27	0.0168	0.453
	R_2	41	0.871	35.7
	R_3	130	0.267	34.7
	R_4	5	0.200	1.00
	R_5	15	0.0668	1.00
	R_6	2100	0.0168	35.3
	R_7	34	1.16	39.3

/3 2. 3.75 Ω

/3 3. 133.75 Ω

/3 4. 64.9 Ω

/3 5. 31.2 W

/2 6. INCREASE

/2 7. DECREASE

/3 8. 16.0 Ω

/3 9. 60.2 V

SECTION 2

/10	1. $R_1 =$	10.1 Ω
	$R_2 =$	10.1 Ω
	$R_3 =$	10.2 Ω
	$R_4 =$	125 Ω
	$R_5 =$	55.6 Ω

/2 2. R_4

/3 3. 0.00340 A or 3.40 mA

/3 4. 50.0 Ω

/3 5. 35 mA

SECTION 3

/3 1. 1.88 s

/3 6. 0.080 A

/3 2. 0.133 A

/3 7. 20 V

/3 3. 0.080 A

/3 8. 16.0 V

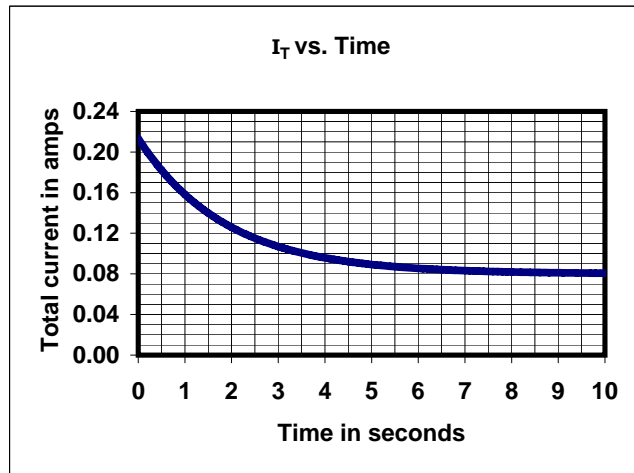
/3 4. 0.25 C

/3 9. 0.0269 A

/3 5. 0

/3 10. 1.59 J

/5



/3 12. 5.00 s

/3 14. 4.12 V

/3 13. 0.005 A

/3 15. 0.137 C

KEY

SECTION 4

/18 1.	R	I	V
	R	12V/11R or 1.09V/R	12V/11 or 1.09V
	2R	5V/11R or 0.45V/R	10V/11 or 0.91V
	3R	7V/11R or 0.64V/R	21V/11 or 1.91V

/3 2. left

/3 3. $1.21V^2/R$ or $147V^2/121R$

/3 4. 64.6 $k\Omega$

/24 5. G

9. K

13. A

6. H

10. E

14. F

7. J

11. L

15. C

8. I

12. B

16. D

SECTION 5

/4 1. C Q

/4 2. A J

/4 3. D L

/4 4. F O

/4 5. 1, 3, 4, 2

/4 6. 2, 4, 3, 1

/4 7. 2, 4, 3, 1

/10 8. 2.732R

BONUS

Volta First battery