

# Complex Circuits Practice

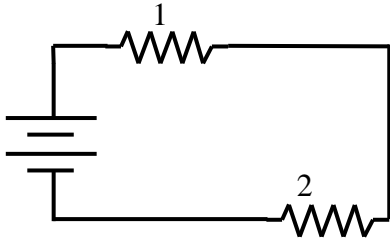
Physics

Name \_\_\_\_\_

1 2 3 4 5 6 7 8

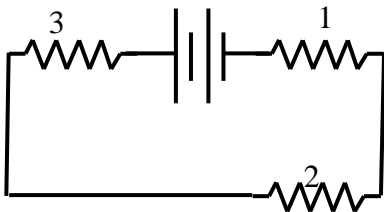
Fill in the charts at right for the following circuits

1



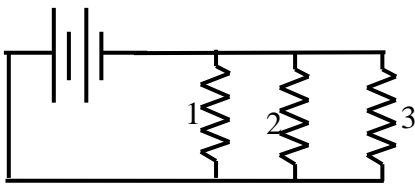
	V	I	R
T			
1		6	4
2			6

2



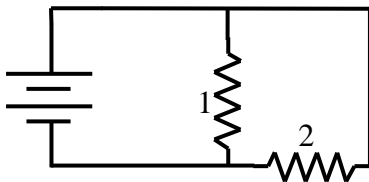
	V	I	R
T	12		
1		.4	
2	3.2		
3	6.4		

3

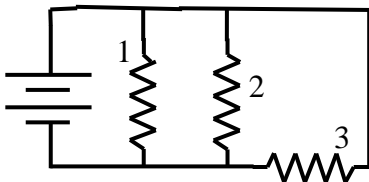


	V	I	R
T		14	
1	6		1
2			
3		4	

4



	V	I	R
T			2.25
1			3
2	18		



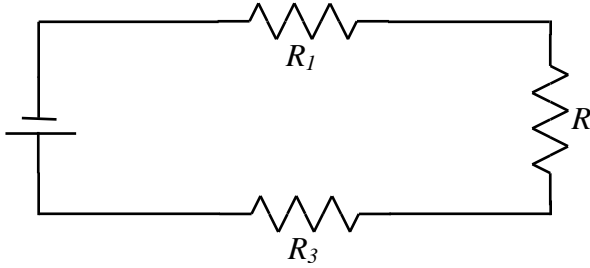
	V	I	R
T	8		1.5
1			
2			4
3			6

# Circuits

Name \_\_\_\_\_

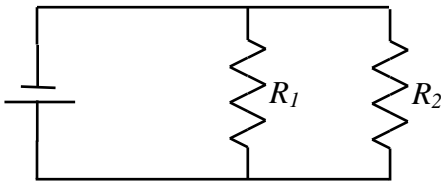
Date \_\_\_\_\_ Per \_\_\_\_\_

1.



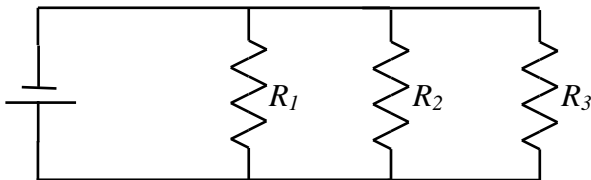
	V	I	R
<b>Total</b>	V	A	$\Omega$
<b>R<sub>1</sub></b>	V	<b>2.00</b> A	<b>4.00</b> $\Omega$
<b>R<sub>2</sub></b>	V	A	<b>6.00</b> $\Omega$
<b>R<sub>3</sub></b>	V	A	<b>8.00</b> $\Omega$

2.



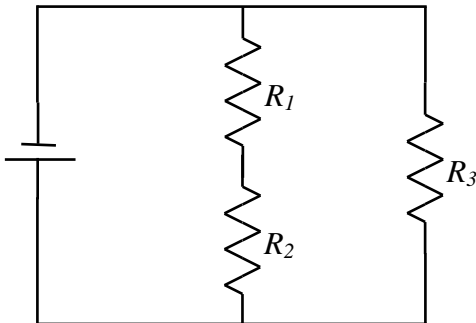
	V	I	R
<b>Total</b>	<b>12.00</b> V	A	$\Omega$
<b>R<sub>1</sub></b>	V	A	<b>2.00</b> $\Omega$
<b>R<sub>2</sub></b>	V	A	<b>4.00</b> $\Omega$

3.



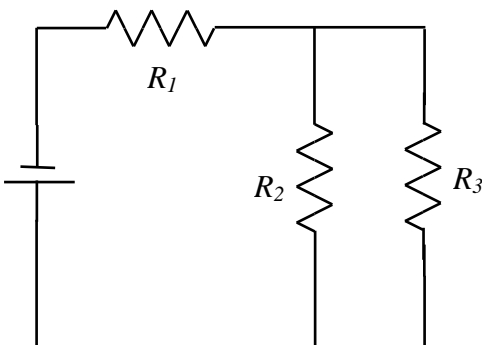
	V	I	R
<b>Total</b>	V	A	$\Omega$
<b>R<sub>1</sub></b>	V	<b>2.00</b> A	$\Omega$
<b>R<sub>2</sub></b>	V	<b>3.00</b> A	<b>12.00</b> $\Omega$
<b>R<sub>3</sub></b>	V	<b>1.00</b> A	$\Omega$

4.



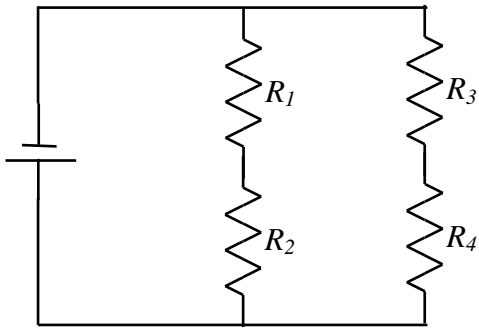
	V	I	R
<b>Total</b>	<b>12.00</b> V	<b>2.00</b> A	$\Omega$
<b>R<sub>1</sub></b>	V	A	<b>6.00</b> $\Omega$
<b>R<sub>2</sub></b>	V	A	<b>4.00</b> $\Omega$
<b>R<sub>3</sub></b>	V	A	<b>15.00</b> $\Omega$

5.



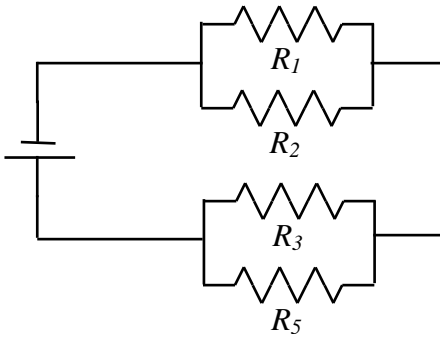
	V	I	R
<b>Total</b>	<b>24.00</b> V	A	$\Omega$
<b>R<sub>1</sub></b>	<b>8.00</b> V	A	$\Omega$
<b>R<sub>2</sub></b>	V	<b>4.00</b> A	$\Omega$
<b>R<sub>3</sub></b>	V	<b>2.00</b> A	$\Omega$

5.



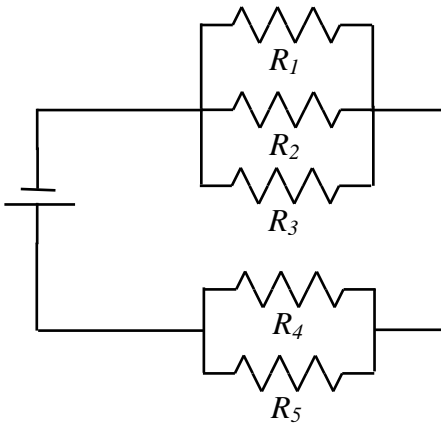
	V	I	R
<b>Total</b>	<b>50.00 V</b>	<b>5.00 A</b>	$\Omega$
<b>R<sub>1</sub></b>	V	<b>2.00 A</b>	$\Omega$
<b>R<sub>2</sub></b>	<b>25.00 V</b>	A	$\Omega$
<b>R<sub>3</sub></b>	<b>10.00 V</b>	A	$\Omega$
<b>R<sub>4</sub></b>	V	<b>3.00 A</b>	$\Omega$

6.



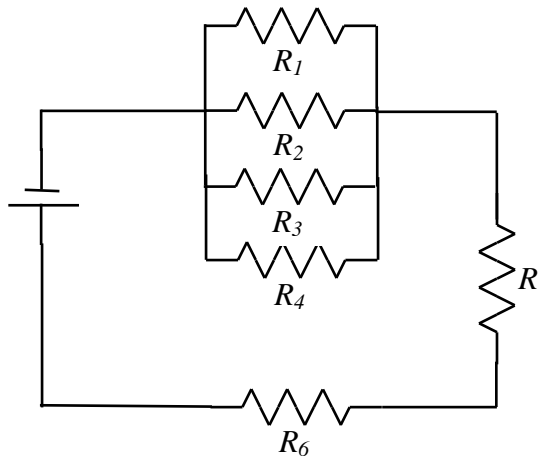
	V	I	R
<b>Total</b>	V	A	$\Omega$
<b>R<sub>1</sub></b>	<b>12.00 V</b>	A	<b>2.00</b> $\Omega$
<b>R<sub>2</sub></b>	V	A	<b>4.00</b> $\Omega$
<b>R<sub>3</sub></b>	<b>24.00 V</b>	A	<b>4.00</b> $\Omega$
<b>R<sub>4</sub></b>	V	A	<b>8.00</b> $\Omega$

7.



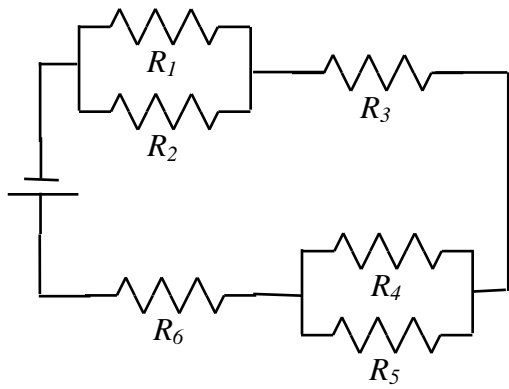
	V	I	R
<b>Total</b>	<b>46.00 V</b>	A	$\Omega$
<b>R<sub>1</sub></b>	V	<b>3.00 A</b>	$\Omega$
<b>R<sub>2</sub></b>	V	<b>4.00 A</b>	$\Omega$
<b>R<sub>3</sub></b>	V	A	<b>6.00</b> $\Omega$
<b>R<sub>4</sub></b>	V	<b>3.00 A</b>	$\Omega$
<b>R<sub>5</sub></b>	V	<b>7.00 A</b>	$\Omega$

8.



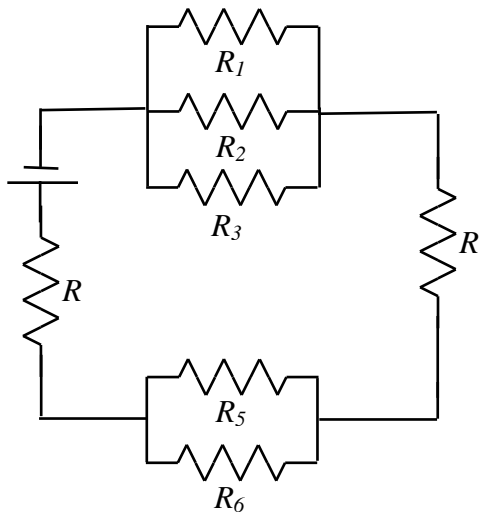
	V	I	R
<b>Total</b>	V	A	$\Omega$
<b>R<sub>1</sub></b>	V	A	<b>20.00</b> $\Omega$
<b>R<sub>2</sub></b>	<b>10.00</b> V	A	$\Omega$
<b>R<sub>3</sub></b>	V	A	<b>4.00</b> $\Omega$
<b>R<sub>4</sub></b>	V	<b>1.00</b> A	$\Omega$
<b>R<sub>5</sub></b>	V	<b>5.00</b> A	<b>5.00</b> $\Omega$
<b>R<sub>6</sub></b>	V	A	<b>6.00</b> $\Omega$

9.



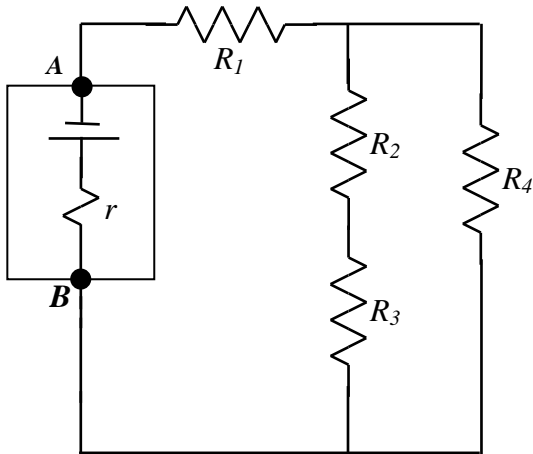
	V	I	R
<b>Total</b>	<b>30.00</b> V	A	$\Omega$
<b>R<sub>1</sub></b>	<b>6.00</b> V	<b>3.00</b> A	$\Omega$
<b>R<sub>2</sub></b>	V	<b>2.00</b> A	$\Omega$
<b>R<sub>3</sub></b>	V	A	<b>3.00</b> $\Omega$
<b>R<sub>4</sub></b>	V	<b>1.00</b> A	$\Omega$
<b>R<sub>5</sub></b>	<b>8.00</b> V	A	$\Omega$
<b>R<sub>6</sub></b>	V	A	$\Omega$

10.



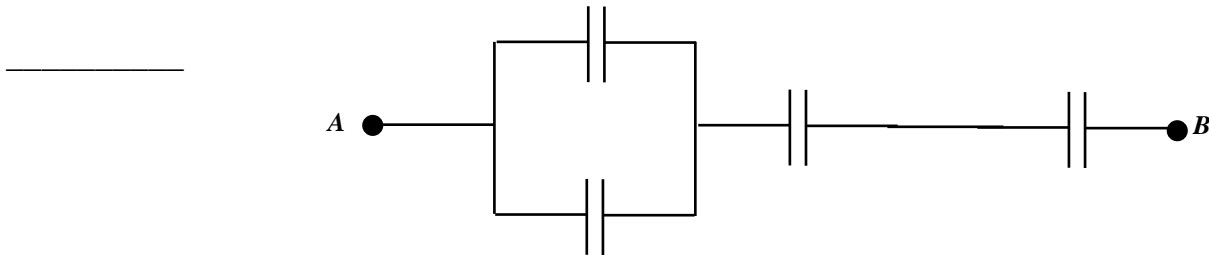
	V	I	R
<b>Total</b>	V	<b>12.00</b> A	$\Omega$
<b>R<sub>1</sub></b>	V	A	$\Omega$
<b>R<sub>2</sub></b>	<b>18.00</b> V	<b>2.00</b> A	$\Omega$
<b>R<sub>3</sub></b>	V	A	<b>3.00</b> $\Omega$
<b>R<sub>4</sub></b>	V	A	<b>4.00</b> $\Omega$
<b>R<sub>5</sub></b>	V	A	<b>2.00</b> $\Omega$
<b>R<sub>6</sub></b>	V	<b>8.00</b> A	$\Omega$
<b>R<sub>7</sub></b>	<b>6.00</b> V	A	$\Omega$

11. The Total generates 24 V of emf and has an internal resistance of  $1.0 \Omega$ .  $R_1 = 4 \Omega$ ,  $R_2 = 2 \Omega$ ,  $R_3 = 4 \Omega$ , and  $R_4 = 6 \Omega$ .

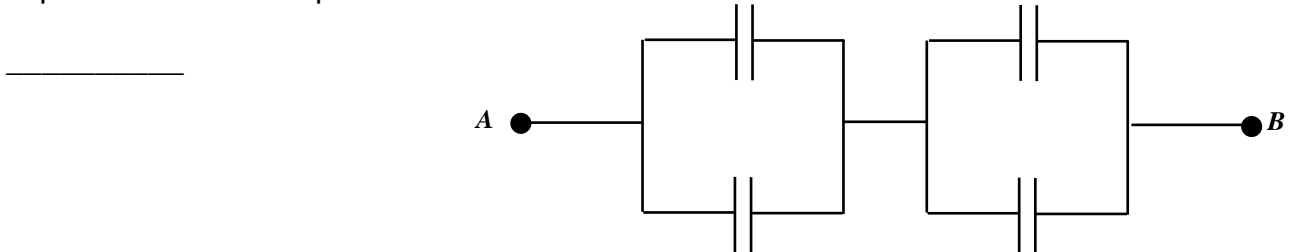


- What is the current through  $R_2$ ?  
\_\_\_\_\_
- What is the voltage through  $R_4$ ?  
\_\_\_\_\_
- How much power does  $R_1$  consume?  
\_\_\_\_\_
- What is the voltage produced by the Total?  
\_\_\_\_\_

12. The following circuit contains four capacitors, each with  $120 \text{ nF}$  of capacitance. What is the total capacitance between points **A** and **B**?



13. The following circuit contains four capacitors, each with  $50 \text{ nF}$  of capacitance. What is the total capacitance between points **A** and **B**?



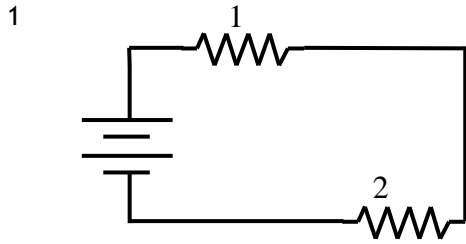
# Complex Circuits Practice

Physics

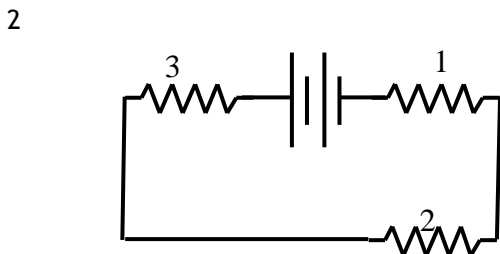
Name \_\_\_\_\_

1 2 3 4 5 6 7 8

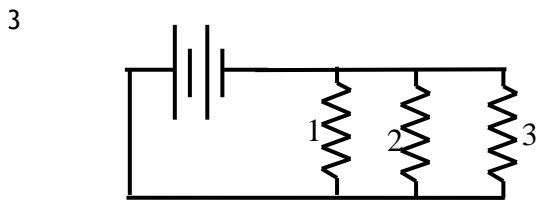
Fill in the charts at right for the following circuits



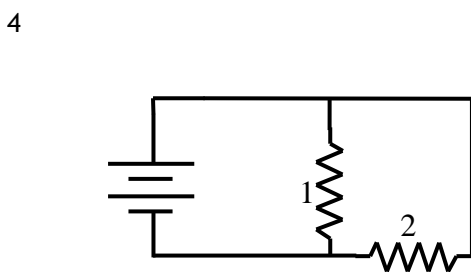
	V	I	R
T			
1		2	4
2			2



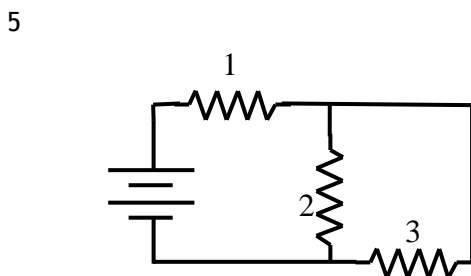
	V	I	R
T	6		
1		.4	
2	1.6		
3	3.2		



	V	I	R
T		20	
1	8		1
2			1
3		4	

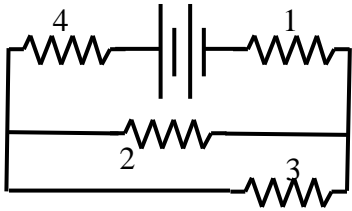


	V	I	R
T			2
1			6
2	9		



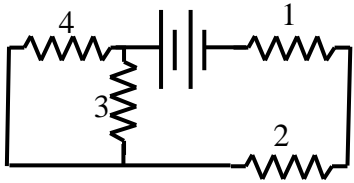
	V	I	R
T	8	1.25	
1			
2	3		4
3			6

6



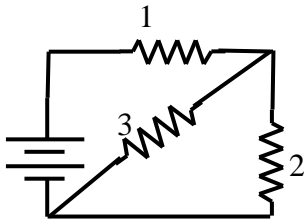
	V	I	R
T	12		
1			5
2			3
3			6
4			2

7



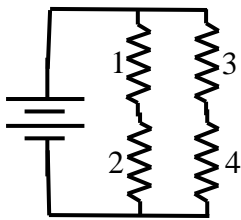
	V	I	R
T	6		
1		.75	2
2			
3	1.5		
4		.375	

8



	V	I	R
T	10		
1			3.8
2			3
3			2

9



	V	I	R
T	9		
1		1.5	
2	1.5		
3		1.5	
4	6		

10. Based on the table at right, draw the circuit.

	V	I	R
T		1.6	3.75
1		1	3
2		1	3
3		.6	10