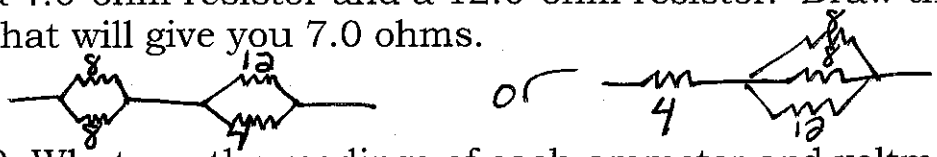
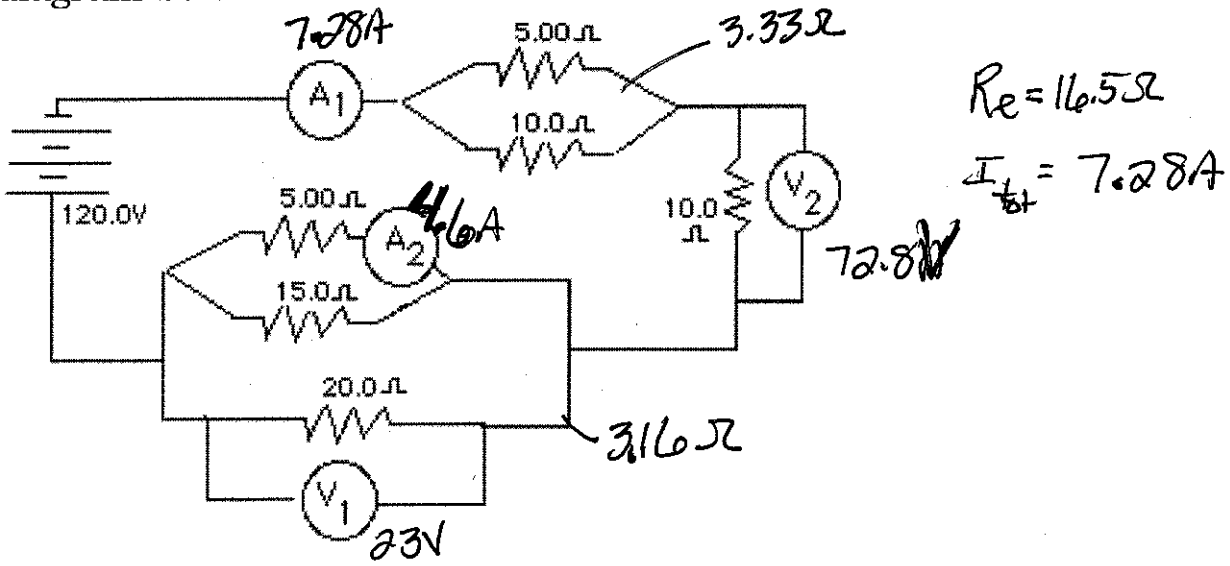
Electricity Problem Review **Name**_____

1. You need 7.0 ohms of resistance. You have (2) 8.0-ohm resistors, a 4.0-ohm resistor and a 12.0-ohm resistor. Draw the arrangement that will give you 7.0 ohms.



2. What are the readings of each ammeter and voltmeter in the diagram below:



3. A 10.0 ohm resistor, a 20.0 ohm resistor, and a 30.0 ohm resistor are connected in parallel across household voltage.

A. What is the effective resistance of this circuit?

5.45Ω

B. What is the current through the 20.0 ohm resistor?

6A

4. A 15.0 ohm resistor is connected in series with two 10.0 ohm resistors in parallel and a 120V generator.

A. What is the total current in the circuit?

6A

B. What is the current through the 10.0 ohm resistors?

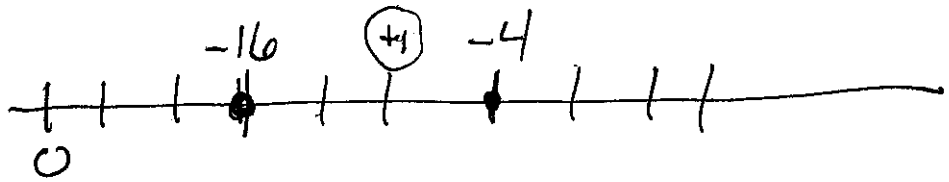
3A each

C. What is the voltage drop across the 15.0 ohm resistor?

90V

5. The following appliances are all plugged into the same fuse line in a home: a 15 ohm frying pan, a 25 ohm refrigerator, a 20.0 ohm heater, and a 12. ohm toaster. The fuse is rated for 28A. Will the fuse blow if all appliances are on?

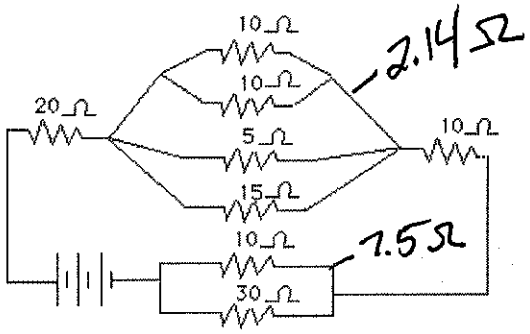
28.8A, YES



6. A -16 C charge is placed on a Number Line at point 3. A -4 C charge is placed at point 6. Where would you place a +1 C charge so that it would have no net force on it?

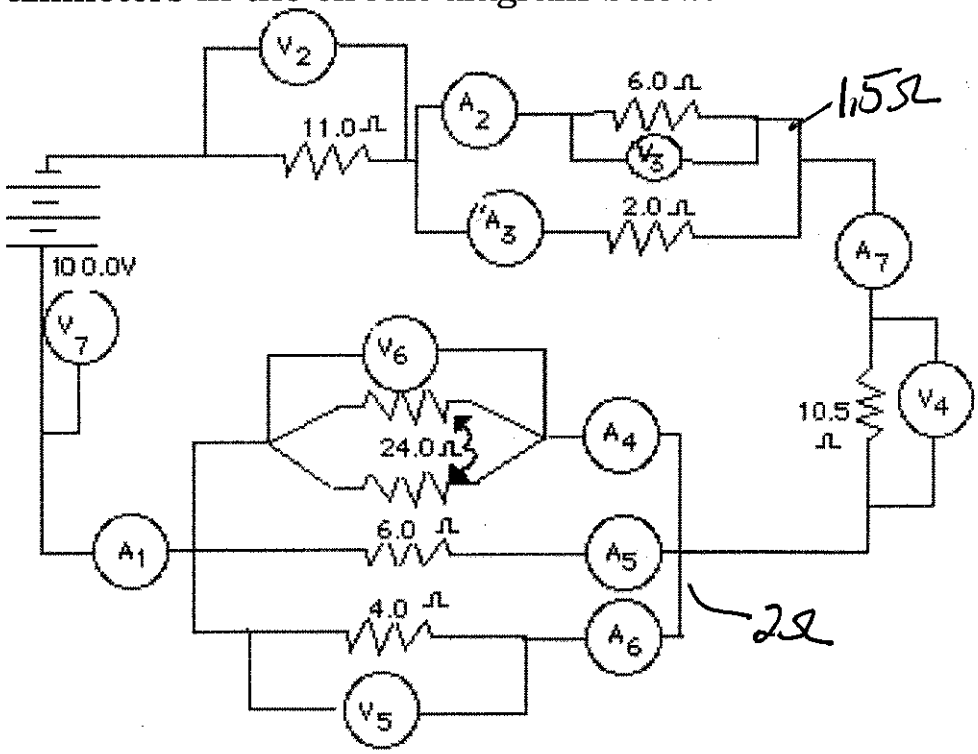
5

7. Find the effective resistance of the circuit in this diagram:



39.64Ω in total

8. Calculate the readings for each of the 7 voltmeters and 7 ammeters in the circuit diagram below:



	V	A
1	—	4A
2	44V	1A
3	6V	3A
4	42V	.6666A
5	8V	1.333A
6	8V	2A
7	—	4A

$R_e = 25\Omega$

$I = \frac{100}{25} = 4A$