Circuit Lab Key - Point Values are 1 unless labeled otherwise in parentheses

1. Volt
2. Ampere
3. Ohm * meters (Thank you to Alice Wang who realize I was grading tests incorrectly :P) Remember, resistivity not resistance.
4. Watt
5. Coulomb
6. (4) 2A, 2A, 2A, 12 ohm
7. (4) 3A, 1A, 2A, 8 ohm
8. F = k q1 * q2 / r^2
9. (4) 4V, 3V, 9V, 2V
10. (3) ½ point per mesh current, ½ point per equation (depends on currents)
11. 8 W
12. (2) Cross out wire near R1, put ammeter there instead. Put voltmeter around R3.
13. 670 kohm +- 5%
14. 58 kohm +- 10%
15. $$\Omega = \frac{\mathrm{V}}{\mathrm{A}} = \frac{\mathrm{m}^2 \cdot \mathrm{kg}}{\mathrm{s} \cdot \mathrm{C}^2} = \frac{\mathrm{J}}{\mathrm{s} \cdot \mathrm{A}^2} = \frac{\mathrm{kg} \cdot \mathrm{m}^2}{\mathrm{s}^3 \cdot \mathrm{A}^2} = \frac{\mathrm{J} \cdot \mathrm{s}}{\mathrm{C}^2} = \frac{1}{\mathrm{S}}$$

    The SI Unit one is this one---------> |----------|

    Note that the SI Base Unit is not C. It's actually A
16. 1.56 * 10 ^ -4 ohm
17. resistance
18. (2) 43.75 uF
19. (2) 6.32 * 10 ^ -13 F, one point for writing equation
20. (2) 1.27 * 10 ^ -12 C, one point for writing equation
21. Electron current flows from neg to pos, Conventional flows from pos to neg
22. (2) R = 50 ohm, V = 10 V

Total Points: 38