Resistance and Ohm's Law Worksheet

Show your work and box your answer.

1.   Voltage: 25 VDC
        Current: 5 A
        Resistance: _____

2.   Energy: 12 J
        Current: 24 A
        Resistance: _____

3.   Voltage: 12 VDC
        Current: _____
        Resistance: 0.2

4.   Energy: _____
        Current: 10 A
        Resistance: 120 O

5.   **emf**:   3.0 VDC
        Current: _____
        Resistance: 1.5 O

6. .   Voltage: _____
        Current: 0.05 A
        Resistance: 2200 O

7. My amplifier uses a tube filaments requires a maximum of 5 VDC at a current of 15 ampere. Calculate the internal resistance of the tube.

8. The transformer in my amplifier provides 0.7 VDC more than needed to that tube. At 15 amperes of current, calculate the resistance of the wire needed to drop that voltage.

9. A 2 volt .010 ampere LED is connected to a 9 volt battery. What value of limiting resistor must be placed in series with the LED?

10. A 1.7 volt 15 mA LED is connected to a 3 volt battery. What value of limiting resistor must be placed in series with the LED?

11. Your hair dryer consumes 1200 watts of power at 120 VAC. Calculate the current requirements.

12. Calculate the power of the filaments of the tube in my amplifier.