

Student Activity Sheet 4-4

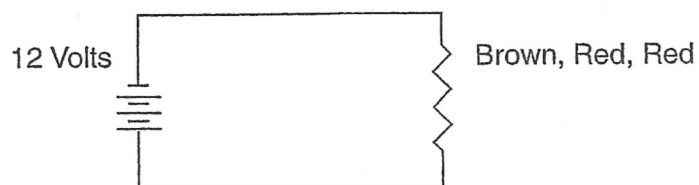
Applying the Power Wheel

Name _____ Score _____

Date _____ Class/Period/Instructor _____

Technicians must be able to compute unknown values using the information provided to them. In this activity, you will use the power wheel for the calculations. Place the correct answer in the space provided. Use the area below the questions to calculate your answers.

1. A $1\text{ k}\Omega$ resistor connected to a 6 V source will produce _____ A of current and _____ W of heat.
2. A $300\ \Omega$, $1/4$ watt resistor can be connected to a source voltage as high as _____ without exceeding its wattage rating.
3. A $200\ \Omega$ resistor conducting 0.05 A will dissipate _____ W of power.
4. A red, red, brown resistor connected to a 12 V power supply will dissipate _____ W of power.
5. The total power consumed by the circuit below is _____ W.



6. The maximum voltage that can be applied to a 0.5 W, 1200 Ω resistor without exceeding its wattage rating would be _____ V.
7. The maximum voltage that can be applied to a 1200 Ω , 1/4 W resistor without exceeding its wattage rating would be _____ V.
8. A 1200 Ω resistor is connected to a 12 V power supply. What is the minimum wattage resistor that can be used—1 W, 1/2 W, 1/4 W, or 1/8 W?
9. A 120 Ω resistor is connected to a 6 V power supply. What is the minimum wattage resistor that can be used—1 W, 1/2 W, 1/4 W, or 1/8 W?
10. A 200 Ω resistor is connected to a 12 V power supply. What wattage resistor should be used—1 W, 1/2 W, 1/4 W, or 1/8 W?