Formula and Multiple Formulas Worksheet

1. What is the resistance of a resistor if a circuit is on for 28 minutes, used 25 000 J of energy and had 3 A?

2. What is the resistance of a resistor if it used 0.9 A and 650 W of power?

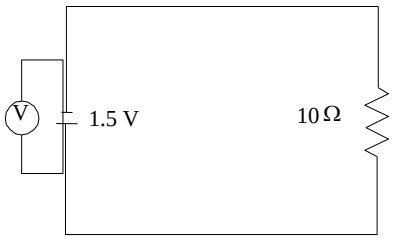
3. What is the resistance of a resistor if it uses 920 V and 180 W of power?

4. What is the power of an appliance if it needs 220 V when it has a 10 Ω resistor?

5. What is the resistance of a resistor if a circuit is on for 30 minutes, used 20 000 J of energy and had 2 A?

6. What is the power of an appliance in kW if it works on 7 A and has a 3.9 Ω resistor?

7. How many joules of heat will the following circuit give off in exactly one hour of use?



8. You connect a fan to a 12-V power source. The total resistance of the wires used is 10 Ω. You operate the fan for 20 min. How much energy is used by the wires during this period?

A) 4.8 J B) 288 J C) 2 400 J D) 17 280 J

9. The rating plate below indicates the characteristics of Jasmine's hair dryer

MODEL – J45-TX2	
110 V	1200 W

Jasmine took 35 minutes to dry her hair. How much energy did Jasmine use to dry her hair?

A) 3.85 kJ B) 72 kJ C) 2 520 kJ D) 2 520 000 kJ

10. Some of the characteristics of an MP3 player are listed below.

- Potential difference: 3 V
- Electric current intensity: 0.1 A
- Energy stored in the battery: 21 600 J

Given the energy stored in its battery, what is the maximum amount of time in minutes this MP3 player can be used?

11. Julie uses her computer to do her homework. What is the power of this computer given that it consumed 1 440 000 J of energy over a period of 2 hours?

12. What is the resistance of a resistor if a circuit is on for 3 hours, used 90 000 J of energy and 120 V?

13. What was the potential difference of a computer that used 55 000 J of energy when it was on for 2 hours and had 1.2 A?

14. How much time passed in minutes when a computer did 700 000 J of work and had 550 W of power?

15. Each of these four appliances is used for one hour. Which one of these appliances is the most expensive to use?

Appliance 1	Appliance 2	Appliance 3	Appliance 4
800 W 120 V 60 Hz	1200 W 10 A 120 V	2 A 240 V 60 Hz	12 A 120 V

A) Appliance 1 B) Appliance 2 C) Appliance 3 D) Appliance 4