

Ohmwork Set

Name _____

1.1) How much current flows in your car's starter motor when it connects to your 12 V battery, if its resistance is $0.10\ \Omega$?

Ans:

1.2) What is the current in a $30.0\ \Omega$ heating coil in a coffee maker, when plugged into 120 V?

Ans:

1.3) During a lie detector test, a voltage of 6 V is impressed across two fingers. If the resistance of the person's skin between those fingers is $400,000\ \Omega$, what current will flow?

Ans:

2.1) What is the resistance of a clothes iron that draws a current of 12 A at 120 V?

Ans:

2.2) What is the resistance of a light bulb that draws a current of 0.50 A at 120 V?

Ans:

2.3) In the lie detector test in problem 1.3, suppose the current between the person's fingers rises to 0.000030 A. What is the person's skin resistance now?

Ans:

3.1) What power is produced when a toaster with a resistance of 24Ω is plugged into a 120 V outlet?

Ans:

3.2) A typical electric clothes dryer consumes about 4.0 kiloWatts (1 kiloWatt = 1000 Watts) when connected to 240 V. What is its resistance?

Ans:

3.3) What Voltage would be required to make a 240Ω light bulb glow at 15 Watts?

Ans: