Ohm’s Law BLM 3-21

Answer the following questions:

1. What is the resistance of a toaster if a current of 12.5 A flows through it when it is connected to 120 V?

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2. A light bulb has a resistance of 90 Ω. What current flows through the bulb when it is connected to 120 V?

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3. A current of 0.50 A flows through a light bulb that has a resistance of 18 Ω. What is the voltage across this light bulb?

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4. A flashlight bulb has a resistance of 4.0 Ω. What current passes through the bulb if it is connected to 3.0 V?

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5. What potential difference is necessary to produce a current of 0.60 A in a load that has a resistance of 25 Ω?

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6. The current through a load in a circuit is 2.5 A. If the potential difference across the load is 75 V, what is the resistance of the load?

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7. (a) An 80 V potential difference is measured across a light bulb that has a resistance of 16 Ω. What is the current through this light bulb?

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(b) If the light bulb was replaced by a bulb with twice the resistance, what would be the new current through the bulb?

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8. A 25 mA current flows through a 300 Ω lamp. What is the voltage across the lamp?

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