PROBLEM #1

The current through a 5 kΩ resistor is given in the figure below.

a) How much total energy must a source deliver over the time interval \( t = 0 \) to \( t = 2 \) s?

b) How much total charge is transferred in the same period of time?
PROBLEM #2
An electric heater is connected to a constant 250 V voltage source and absorbs 1000 W. Subsequently, this heater is connected to 210 V. What power does it absorb from the 210 V source? What is the resistance of the heater?
PROBLEM #3
Find the power delivered by each independent source and the power absorbed by each resistor in the following circuit.