PROBLEM #1
The waveforms for the current through and the voltage across a certain resistor are as shown in the following figures. Determine the energy dissipated.
PROBLEM #2
An unspecified resistance, R, and a 12 Ω resistor are both connected across a 24 V source in parallel. The power dissipated by R is 12 W. Determine the value of R and the total power delivered by the source.
PROBLEM #3
In the following circuit, find $V_{out}$ by superposition.
PROBLEM #4
Transform the following network to a single voltage source

[Diagram of a network with resistors and currents]
PROBLEM #5
In the following circuit, determine the value of the load to be placed across terminals a-b in order for the load to draw maximum power. Then determine the value of this power.
PROBLEM #6
A Thevenin equivalent can also be determined from measurements made at the pair of terminals of interest. Assume the following measurements were made at the terminals a,b in the circuit below. When a 15 kΩ resistor is connected to the terminals a,b, the voltage $v_{ab}$ is measured and found to be 45 V. When a 5 kΩ resistor is connected to the terminals a,b, the voltage is measured and found to be 25 V. Find the Thevenin equivalent and Norton equivalent of the network with respect to the terminals a,b.

Linear resistive circuit with independent and dependent sources