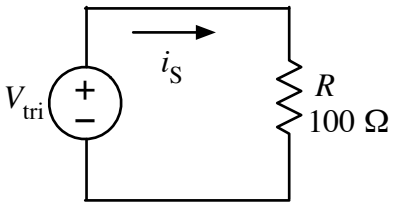
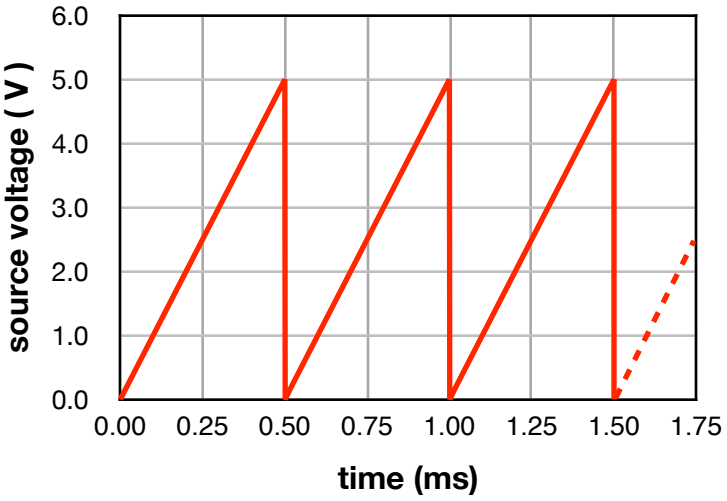
EE 201 — HW 1.15 Name_____

A "ramp" voltage source is applied to a resistor, as show in the circuit. The voltage source is periodic, with a functional form shown in the graph.





a) Calculate the RMS voltage of the time-varying source. v_{rms} = _____

b) Calculate the average power being dissipated by the resistor. P_{avg} = _____

c) What is the average power if the source voltage ramps *down* from 0 to –5 V during each period?

P_{avg} = _____

d) How does the average power change if the period is increased from 0.5 ms to 2 ms?

P_{avg} = _____

Write your answers — and whatever work will fit — on this sheet. Staple any sheets with additional work behind.