Ch 22 HW Quiz #2A

An AC adapter for an electronic device uses a step-down transformer to reduce the input household voltage of 120 Volts (rms) to an output voltage of 1.5 Volts (rms) for the device. The rms current delivered to the transformer by the household outlet is 0.25 Amps.

a) If the primary input coil in the transformer has 480 turns, how many turns are there on the secondary output coil?
b) If the electronic device is connected to the transformer by a long extension cord with a resistance of 0.0075 Ohms, how much power is dissipated by resistance in the cord?
c) What fraction of the power supplied to the device by the transformer is lost due to the resistance in the extension cord?