Ch 22 HW Quiz #1B

A thin rectangular wire loop with 155 turns and a resistance of 0.675 Ohms is in the same plane as a wire with a current of 3.20 Amps directed toward the top of the page as shown below. As the current in the wire drops to zero in a time interval of 0.720 seconds, what is the magnitude and direction of the induced current in the rectangular wire loop?

For the purposes of this problem, you can assume that the magnetic field within the rectangular loop due to the long straight wire is constant throughout the loop and has a magnitude equal to the magnetic field at the geometric center of the loop.

