Magnetic Induction: Application (12)

Consider two conducting loops (i) and (ii) (indicated by green lines in cubes of sides $L = 2$m). Each loop is placed in a region of uniform magnetic field with linearly increasing magnitude, $B(t) = bt, b = 2$T/s, and one of the five directions indicated.

(a) Find the magnetic flux through each loop as produced by each field.

(b) Find the magnitude and direction of the emf induced by each field in each loop.