Consider an RC circuit with $R = 3\Omega$, $C = 2\mu$F wired in the form of a square with sides of length $L = 0.9$m and positioned in a region of uniform magnetic field $\vec{B}$ pointing out of the plane. The magnitude of the field varies with time as shown in the graph. At time $t = 0$ the capacitor is discharged.

Find the charge on the capacitor as a function of time

(a) for $0 < t < 6\mu$s

(b) for $t > 6\mu$s.