

# Follow-Up 2

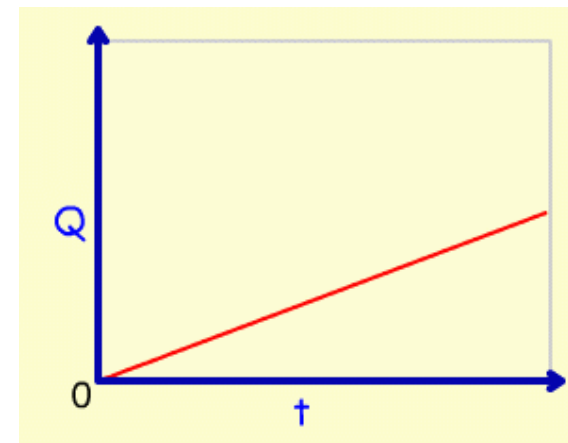
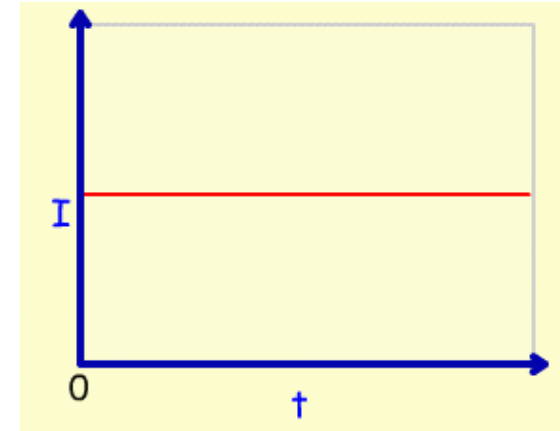


Suppose you were able to charge a capacitor with constant current (does not change in time).

Does a  $B$  field exist in between the plates of the capacitor?

A) YES

B) NO



Constant current  $\Rightarrow Q$  increases linearly with time

Therefore  $E$  increases linearly with time ( $E = Q/(A\epsilon_0)$ )

$dE/dt$  is not zero  $\Rightarrow$  Displacement current is not zero  
 $\Rightarrow B$  is not zero !