$$C = \frac{Q}{V}, \qquad I = \frac{dQ}{dt},$$
$$I = c * \frac{dV}{dt},$$

$F = ma, F = -IlB \ \ since\ ma > ILB$. I set both force equations equal to each other:

$$ma = -IlB$$
$$ma = -c * \frac{dV}{dt} * lB \quad \text{Here I substitued } c * \frac{dV}{dt} \text{ for } I$$

Then I solved for a and got $a = -\frac{cVlB}{mt}$