

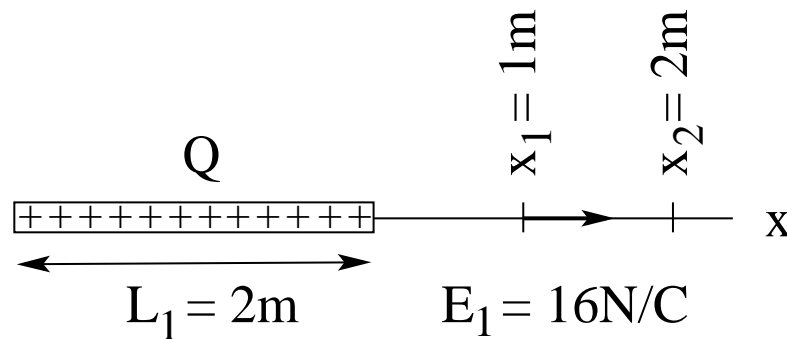
Electric Field of Charged Rubber Band



The electric field at position x along the line of a charged rubber band is

$$E = \frac{kQ}{x(x + L)}$$

The value of E at $x_1 = 1\text{m}$ is $E_1 = 16\text{N/C}$.



- (a) What is the electric field E_2 at a distance $x_2 = 2\text{m}$ from the edge of the band?
- (b) To what length L_2 must the band be stretched (toward the left) such that it generates the field $E_2 = 8\text{N/C}$ at $x_1 = 1\text{m}$?