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 $x_1 = 1\, \text{m}$?