



Want  $C = 100 \text{ pF} = 100 \times 10^{-12} \text{ F}$

For parallel plate capacitor:

$$C = \frac{\epsilon_0 A}{d} = \frac{\epsilon_0 L^2}{d}$$

$$\begin{aligned} \therefore L &= \sqrt{\frac{Cd}{\epsilon_0}} = 0.0475 \text{ m} \\ &= \underline{\underline{4.75 \text{ cm}}} \end{aligned}$$

