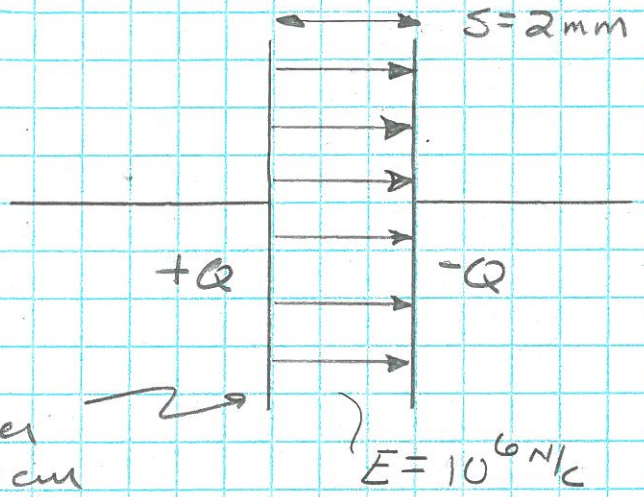

for a parallel plate capacitor:

$$E = \frac{\eta}{\varepsilon_0} \quad \text{and} \quad \eta = \frac{Q}{A} = \frac{Q}{\pi r^2}$$

So

$$E = \frac{Q}{\pi r^2 \varepsilon_0}$$

$\therefore$ $Q = \pi r^2 \varepsilon_0 E$

$= 2.502 \times 10^{-8} C$

$Q = 25.02\ nC$

So, one plate has $+Q$ and the other $-Q$.