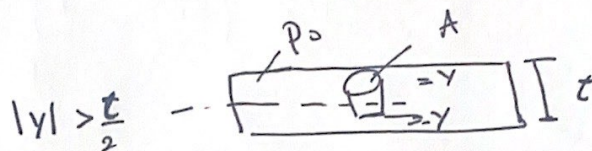
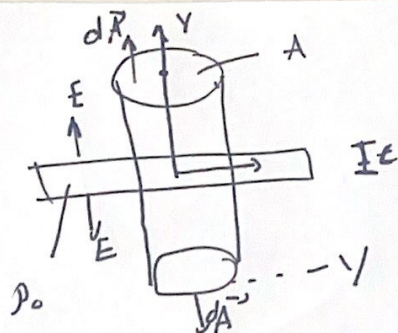


3.2.1

$$\oint \vec{E} \cdot d\vec{A} = \frac{Q_{enc}}{\epsilon_0}$$

$$E(2A) = \frac{A\tau\rho_0}{\epsilon_0}$$

$$\boxed{E = \frac{\tau\rho_0}{2\epsilon_0}} \Rightarrow \text{outside}$$

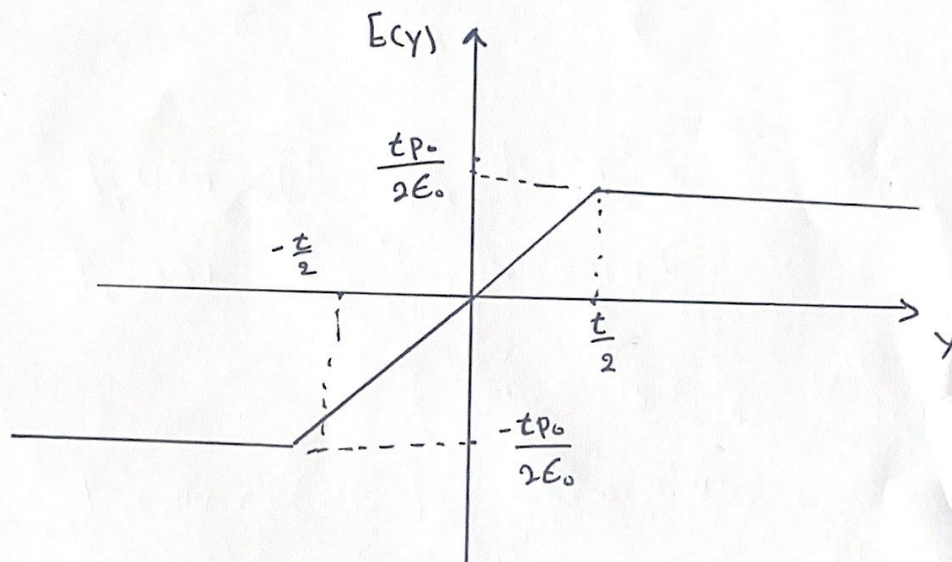


$$\oint \vec{E} \cdot d\vec{A} = \frac{Q_{enc}}{\epsilon_0}$$

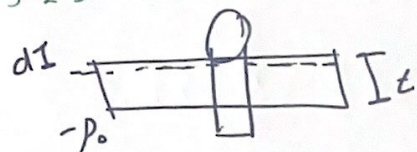
$$E(2A) = \frac{2yA\rho_0}{\epsilon_0}$$

$$\text{Inside } \boxed{E = \frac{y\rho_0}{\epsilon_0}}$$

3.2.2



3.2.3

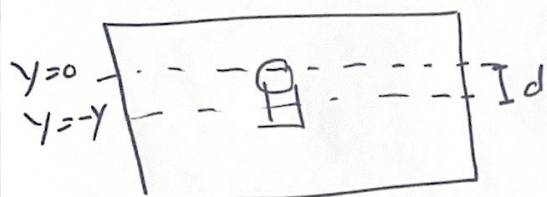


Outside

$$\oint \vec{E} \cdot d\vec{A} = \frac{Q_{enc}}{\epsilon_0}$$

$$2AE = \frac{-At\rho_0}{\epsilon_0}$$

$$E = -\frac{t\rho_0}{2\epsilon_0}$$



Inside

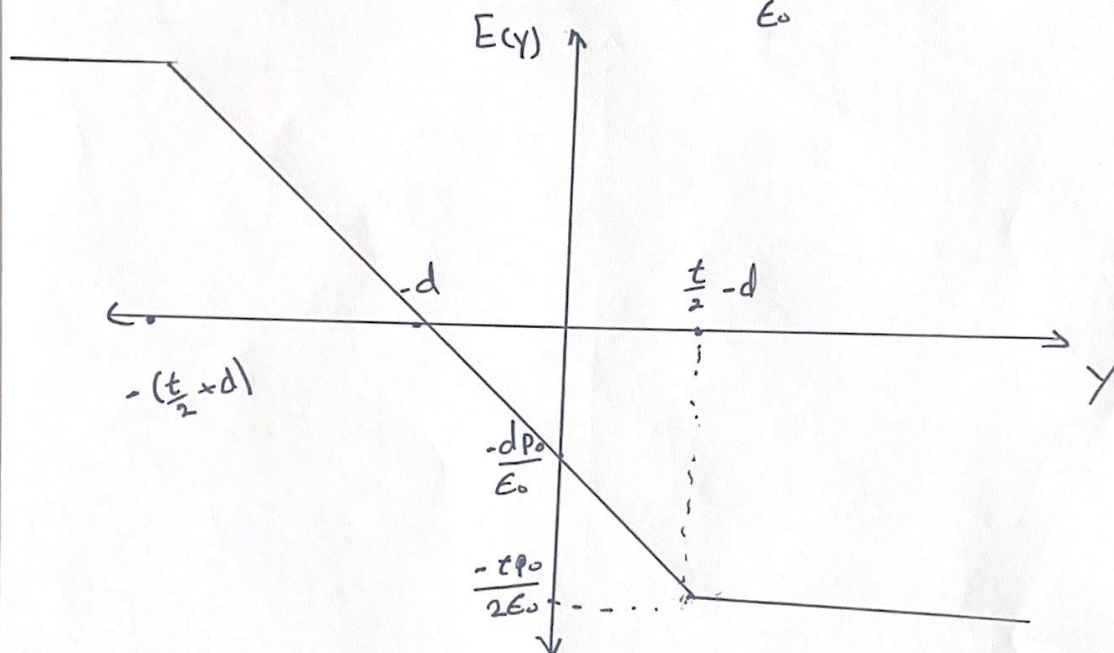
$$\oint \vec{E} \cdot d\vec{A} = \frac{Q_{enc}}{\epsilon_0}$$

$$2AE = -2AY'\rho_0$$

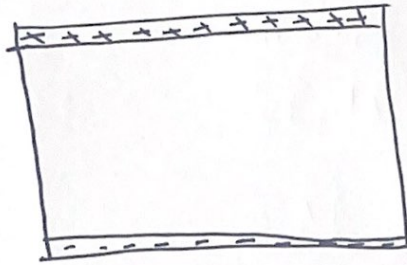
$$E = -\frac{Y'\rho_0}{\epsilon_0}$$

$$Y' = y + d$$

$$E = -\frac{(y+d)\rho_0}{\epsilon_0}$$



3.3.4



$$\vec{E}_{\text{total}} = \vec{E}_+ + \vec{E}_- = \frac{\gamma P_0}{\epsilon_0} - \frac{(\gamma + d) P_0}{\epsilon_0} = \frac{\gamma P_0}{\epsilon_0} - \frac{\gamma P_0}{\epsilon_0} - \frac{d P_0}{\epsilon_0}$$

$$\boxed{\vec{E}_{\text{total}} = -\frac{d P_0}{\epsilon_0}}$$

⑤