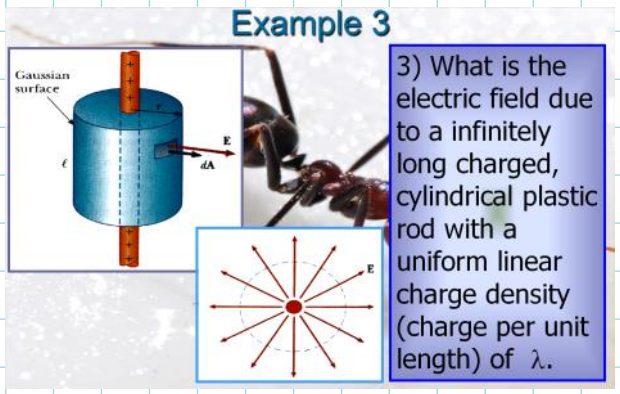
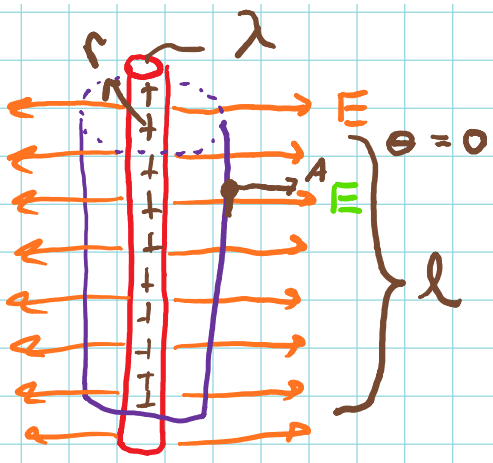
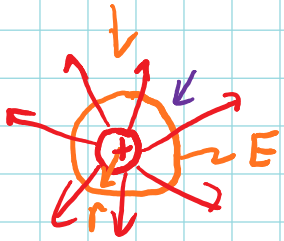
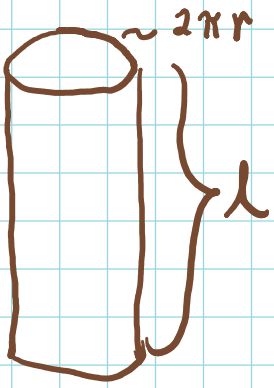
Example 3









$$\Phi = \frac{q_{enc}}{\epsilon_0}$$

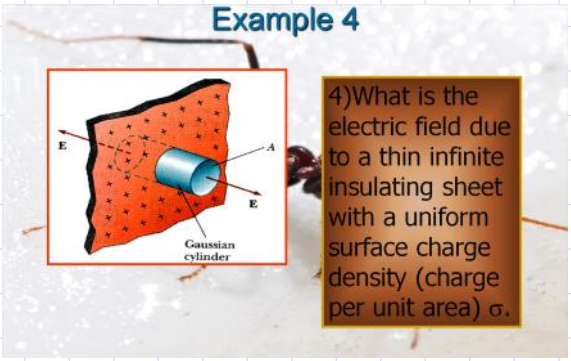
$$E A_s \cos\theta = \frac{q_{enc}}{\epsilon_0}$$

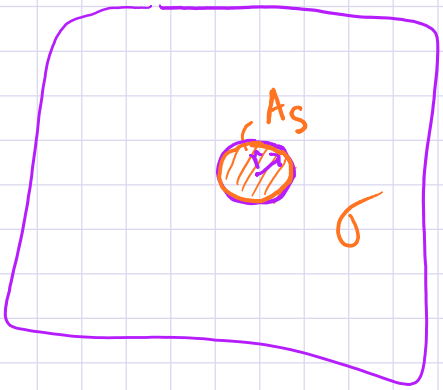
$$E(2\pi r l) = \frac{q_{enc}}{\epsilon_0}$$

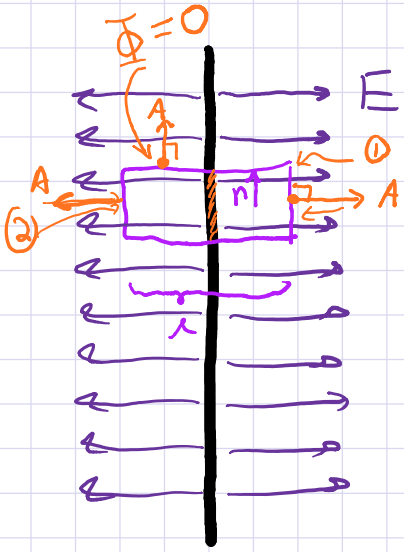
$$E(2\pi r l) = \frac{\lambda l}{\epsilon_0}$$

$$E = \frac{\lambda}{2\pi\epsilon_0 r}$$

Example 4







$q = \sigma A$

$\Phi = \frac{q_{inc}}{\epsilon_0}$

$E A_S \cos\theta = \frac{q_{inc}}{\epsilon_0}$ (1, 1)

$E(2\pi r^2) = \frac{\sigma(\pi r^2)}{\epsilon_0}$ (A_S)

$E = \frac{\sigma}{2\epsilon_0}$