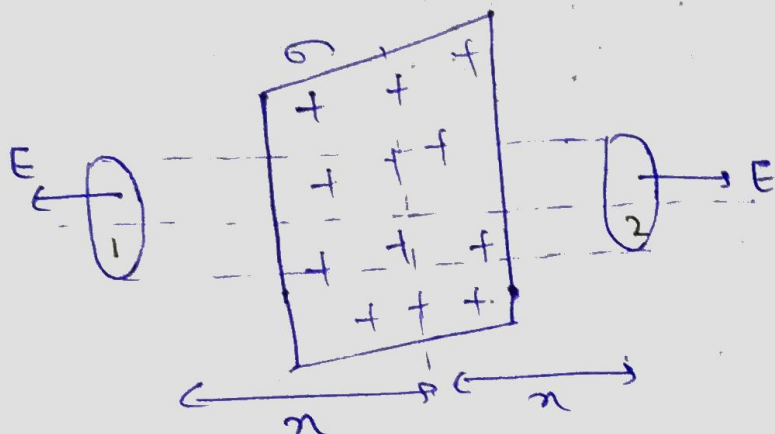


② field Due to a uniformly charged infinite plane sheet.

Let σ be the uniform surface charge density of an infinite plane sheet.



only two faces 1 & 2 will contribute to the flux.

The Out vector normal to surface 1 is in $-x$ dir. & out vec. normal to Surface 2 is in $+x$ dir.

Therefore flux through Both Surface equal and add up.

$$\phi = EA + EA$$

$$\boxed{\phi = 2EA} \quad \text{--- (i)}$$

$$\boxed{\phi = \frac{q}{\epsilon_0} = \frac{\sigma A}{\epsilon_0}} \quad \text{--- (ii)}$$