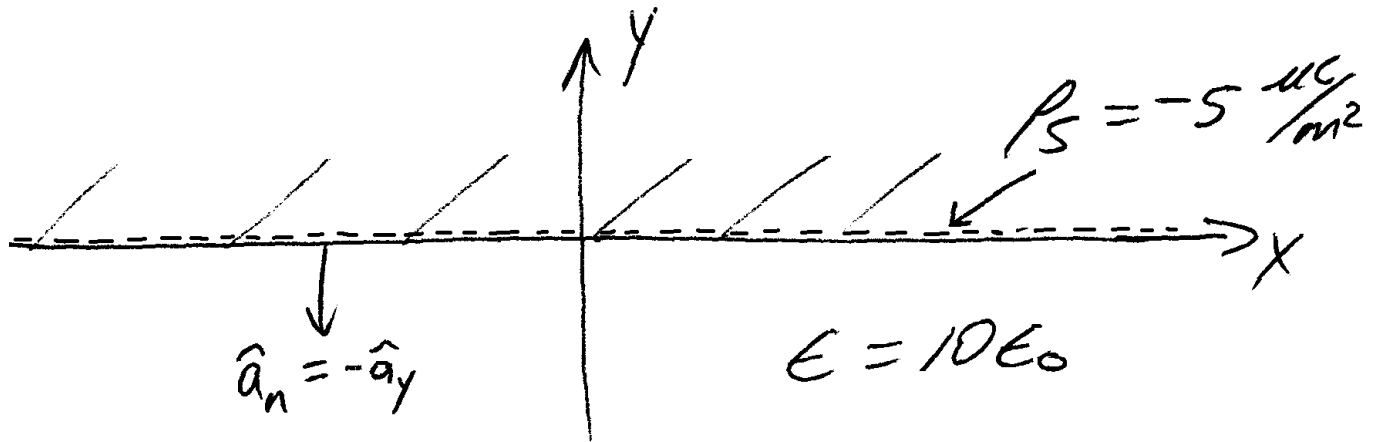


Example- Find the vector electric flux density \bar{D} and electric field \bar{E} near the perfect electrical conductor-dielectric interface



$$|\bar{D}_n| = \rho_s = -5 \mu\text{C}/\text{m}^2$$

Terminate
on ρ_s

$$\bar{D} = \hat{a}_n \rho_s = -\hat{a}_y (-5) = \underline{\underline{+\hat{a}_y 5 \mu\text{C}/\text{m}^2}}$$

$$\bar{E} = \frac{\bar{D}}{\epsilon} = \frac{\hat{a}_y 5 \times 10^{-6}}{10(8.854 \times 10^{-12})}$$

$$\underline{\underline{\bar{E} = \hat{a}_y 56,471.65 \text{ V/m}}}$$