

Special Problem 5-3.2

Two slabs of dissimilar **dielectric** material share a common **boundary**, as shown below.

It is known that the electric field in the **upper** dielectric region is:

$$\mathbf{E}_1(\bar{r}) = 2\hat{a}_x + 4\hat{a}_z$$

In the **lower** dielectric region, determine (in terms of ϵ_0):

- 1) the electric field
- 2) the electric flux density
- 3) the surface charge density of the polarization (i.e., bound) charge at the dielectric interface.

