## Warmup 7 – Polarization and dielectrics

In the following problems, vectors are written in boldface.

Consider the co charge density a the charged wal Which way doe between the cha	Infiguration to the right and an infinite slab of a by itself would creat as the polarization $\mathbf{P}$ poly arged plane and the discussion the discussion of	t with an infinite p dielectric (grey sha e an E-field $\mathbf{E}_0$ . bint in Region I (where the state of the st	lane with <i>positive</i> iding). In empty hich is the region he figure)? Please	surface space, of space I	Û	III
one.						
a) Left	b) Right	c) Neither (I	' is zero)	Ą	Ŷ	
Please explain yo	our answer to the previo	us question:				
In region I the ma Please choose on	agnitude of the total E file.	eld is:				
a) Greater than	$ \mathbf{E}_0 $	c) Equal to $ \mathbf{E}_0 $	e) It depends			

In region II the magnitude of the total E field is: Please choose one.

b) Less than  $|\mathbf{E}_0|$  but not zero

a) Greater than $ \mathbf{E}_0 $	c) Equal to $ {f E}_0 $	e) It depends
b) Less than $ \mathbf{E}_0 $ but not zero	d) Zero	

d) Zero

In region III the magnitude of the total E field is: Please choose one.

a) Greater than $ \mathbf{E}_0 $	c) Equal to $ {f E}_0 $	e) It depends
b) Less than $ \mathbf{E}_0 $ but not zero	d) Zero	

Please explain your reasoning for the previous 3 questions: