

Homework Assignment #21

(due Oct 21, 2022, at the beginning of class)

1. Griffiths 4.15

Hint: The mentioned two methods are what you do in parts (a) and (b).

2. Griffiths 4.17

Hint: Use the boundary conditions of Eqs.(4.26)-(4.29), use that \vec{E} -field lines go from + to - charges, and use that the density of field lines is proportional to E . Furthermore use $\vec{D} = \epsilon_0 \vec{E} + \vec{P}$.

3. Griffiths 4.18

Hint: Use Gauss's Law to determine \vec{D} .