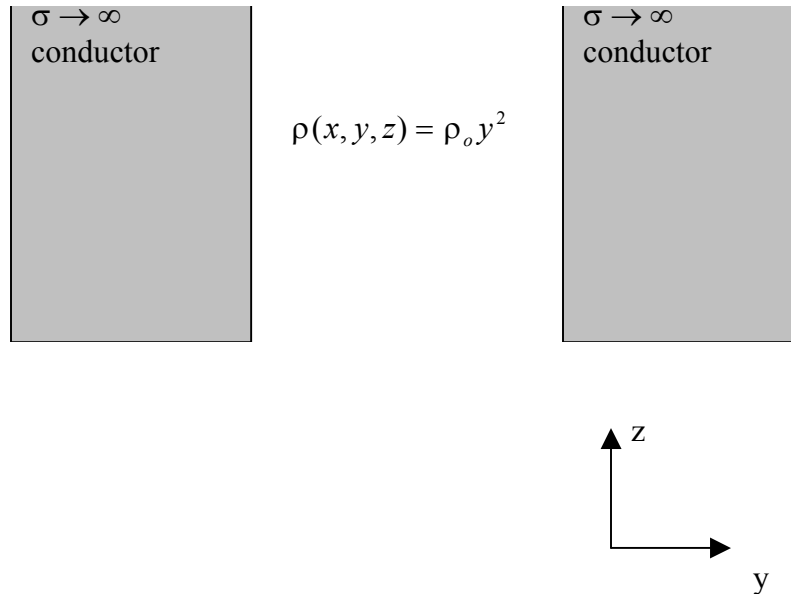


Preparation Assignments

Due Monday, October 14



In the above figure, a charge distribution lies between two conductors. The geometry is infinite in the z -direction.

Determine the \vec{D} field, in the region between the two conductors using Gauss's Law. I recommend following the steps as described in the handout. This probably is similar to that given in the example.

Due Wednesday, October 16

For the above geometry, determine the voltage as a function of position using the electric field from Monday's solution. Assume the region between the conductors is free space. You need to select the location of the ground. Verify your solutions by taking the gradient of the potential. What is the potential difference between the conductors?

Due Thursday, October 17

What is the charge density of the conductors? Include the units.

What is the total energy per unit area of the electric field? Include the units.