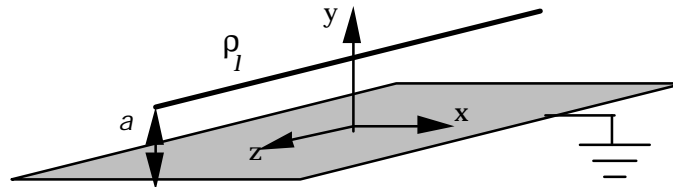# Method of Images

Reading assignment
Popović and Popović, 6.5
Connor and Salon, V-8 → V-27

Problem 1 - **wire above conducting plane**
A wire with a line chage of ρ_l sits at a height a above a grounded conducting plane.

In order to do this problem, you will need to use the potential of a isolated line charge which is given by $V = (\rho_l/2\pi\varepsilon) \ln(r_{ref}/r)$ where r_{ref} is the distance betweeen the line charge and the voltage reference.

a.   What is the voltage in the problem with a line charge and the conducting plane?
b.   What is the electric field just above the ground plane?
c.   What is the charge density on the ground plane?