Keystone - Chapter 15: Electric Field of Distributed Charges

A thin disc with a charge density $\sigma = 1.5\mu C/m^2$ and a radius of 5 cm is oriented along the xy plane centered on the z-axis a distance -2 cm from the origin. Determine the location of a 1 m long rod with the same total charge as the disk, such that the total electric field at the point $A = \langle 0, 0, 2 \rangle$cm is zero.