

Homework 6 for September 8 2008

Due 8AM on September 9 2008

Physics 221 with Professor Jeff Terry

1. Each of two very long, straight rods carries a positive charge of 1.0×10^{-12} C/m. One rod lies along the x axis, the other along the y axis. Find the electric field (magnitude and direction) at the point $x=0.50\text{m}$ and $y=0.20\text{m}$.
2. An electron is initially at rest, 0.10 cm from a very large disk which carries a uniform surface charge density $\sigma = +3.0 \times 10^{-8}$ C/m². How long does it take the electron to strike the plate? What is its speed just before striking the plate?