Homework 2.

1) Find the force on charge Q_1, $10\mu C$, due to charge Q_2, $-100\mu C$, where Q_1 is at (0, 0, 1) m, and Q_2 at (2, 2, 0) m.

2) Two point charges, $Q_1 = 20\mu C$ and $Q_2 = 10\mu C$ are located at (1, 0, 1) m and (-1, -1, 0) m respectively. Find the force on Q_1.

3) Find $\vec{E}$ at P(2, 0, 2) due to a point charge $10\mu C$ at the origin.

4) Find the force on a $10\mu C$ charge at (0, 0, 5) m if two charges of $5\mu C$ are located on the x axes at ± 2 m.

5) (omitted)

6) A uniform sheet charge with surface charge density $\rho_S = (10^{-6}/6\pi)C/m^2$ is located at $y = 3m$. Determine the electric field at points (0, 5, 0) and (0, -10, 1).