

Universidad de Puerto Rico
Recinto Universitario de Mayagüez
Departamento de Ingeniería Eléctrica y Computadoras

INEL 4151 Asignacion #4:

Semana de lunes 7 de octubre de 2013.

Nombre: _____

Sección: _____

1. Two point charges $Q = 2 \text{ nC}$ and $Q = -4 \text{ nC}$ are located at $(1, 0, 3)$ and $(-2, 1, 5)$, respectively. Determine the potential at $P(1, -2, 3)$.

2. A circular disk of radius a carries charge $\rho_s = 1/\rho \text{ C/m}^2$. Calculate the potential at $(0, 0, h)$.

3. The electric field intensity in free space is given by

$$\mathbf{E} = 2xyz \mathbf{a}_x + x^2z \mathbf{a}_y + x^2y \mathbf{a}_z \text{ V/m}$$

Calculate the amount of work necessary to move a $2 \mu\text{C}$ charge from $(2, 1, -1)$ to $(5, 1, 2)$.