

Printed Name: _____.

PHYSICS 331

MISSION 3: ELECTROSTATICS (37+3)PTS

Problems mentioned refer to David Griffith's *Introduction to Electrodynamics*, 5th edition.

- Problem 27** (4pts) Suppose two infinite conducting half-planes meet at the origin. One points along the positive x -axis and the other along the positive y -axis. If a charge Q is placed at (a, b) then find the potential at (x, y, z) where $x, y > 0$.
- Problem 28** (3pt) Problem 3.3 (Laplace solution in sphericals)
- Problem 29** (3pt) Problem 3.7 (method of images, plane with few charges)
- Problem 30** (3pt) Problem 3.8 (method of images, grounded sphere with near point charge)
- Problem 31** (3pt) Problem 3.12 (method of images)
- Problem 32** (8pt) Problem 3.15 (Cartesian geometry problem, separation of variable with Fourier technique)
- Problem 33** (8pt) Problem 3.17 (Cartesian geometry problem, separation of variable with Fourier technique)
- Problem 34** (8pt) Problem 3.21 (spherical potential, requires Legendre polynomial technique)