

Physics 112 Laboratory Report

Electric Field Mapping

Name _____

Date _____

Lab Partner _____

Prepare your report on separate pages, organized as follows.

Ridge and tree pattern

Attach your drawing of the equipotential lines and electric field lines.

Where are the electric fields largest according to the equipotential lines? Show that your answer is correct using $\Delta V/\Delta x$ measurements.

Should you stand on a hill to watch a thunderstorm? Why not?

Pointed object

Attach your drawing of the equipotential lines and electric field lines.

Indicate the distribution of charges on the pointed object, including the sign of the charges. Explain your reasoning.

Explain why the charges don't move to make the surface neutral everywhere.

Electron lens

Attach your drawing of the equipotential lines and some electron trajectories.

Use your drawing to explain how this electrode geometry would focus an incoming beam of electrons