

Lawjay Lee

Lab Partners

- Aaron W.
- Wyatt S.
- Abram J.

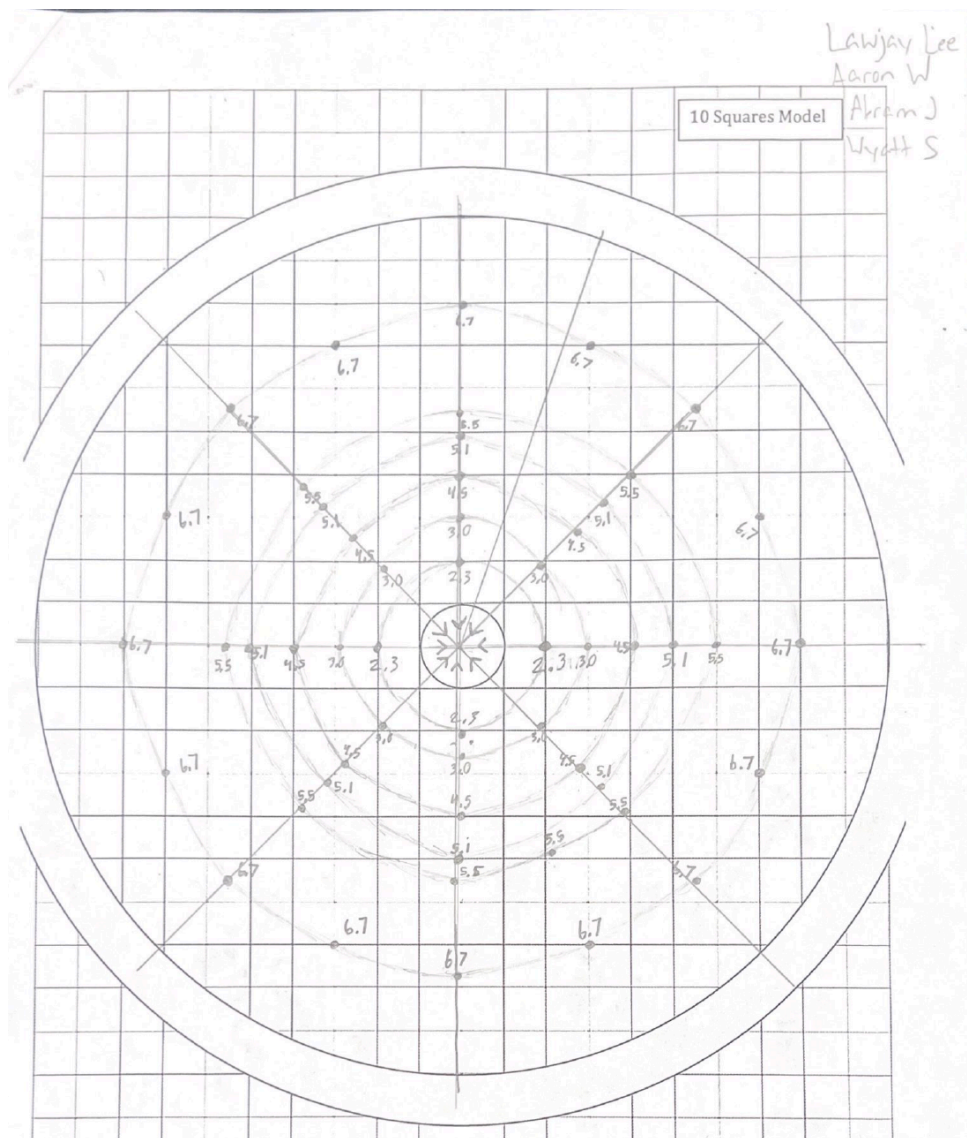
Lab: Equipotential Curves & Electric Fields

Course: PHYS-42

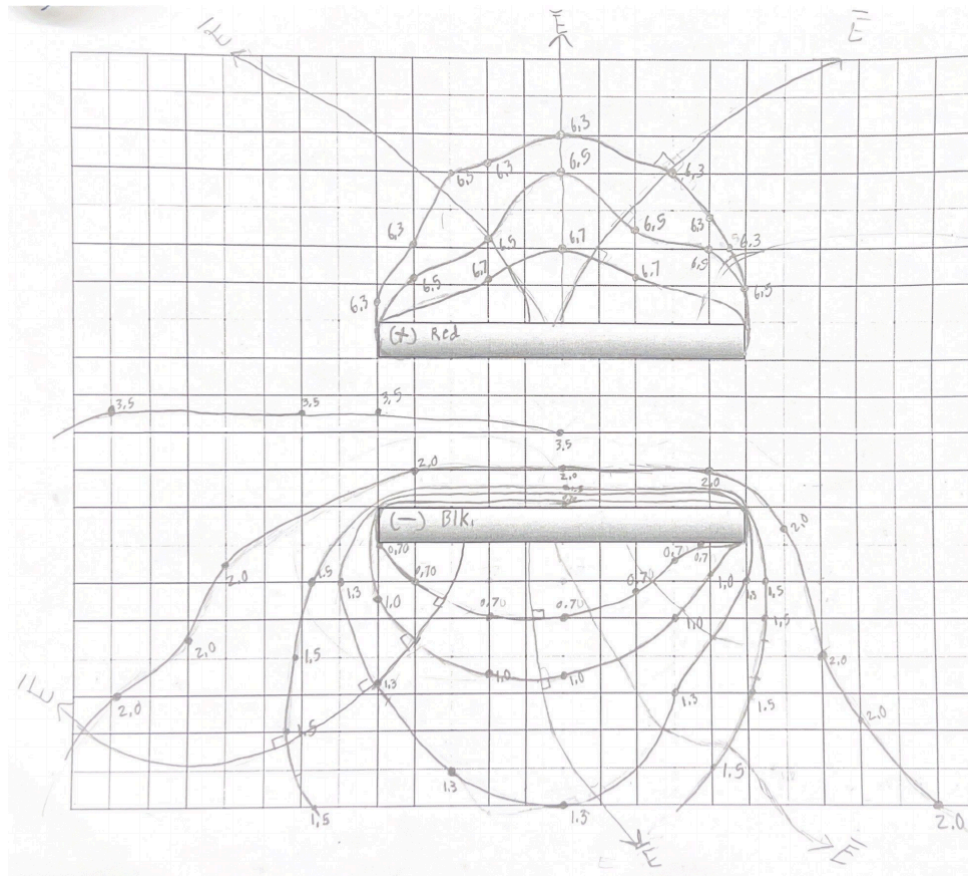
Section: M1069

Date: 2024-02-16

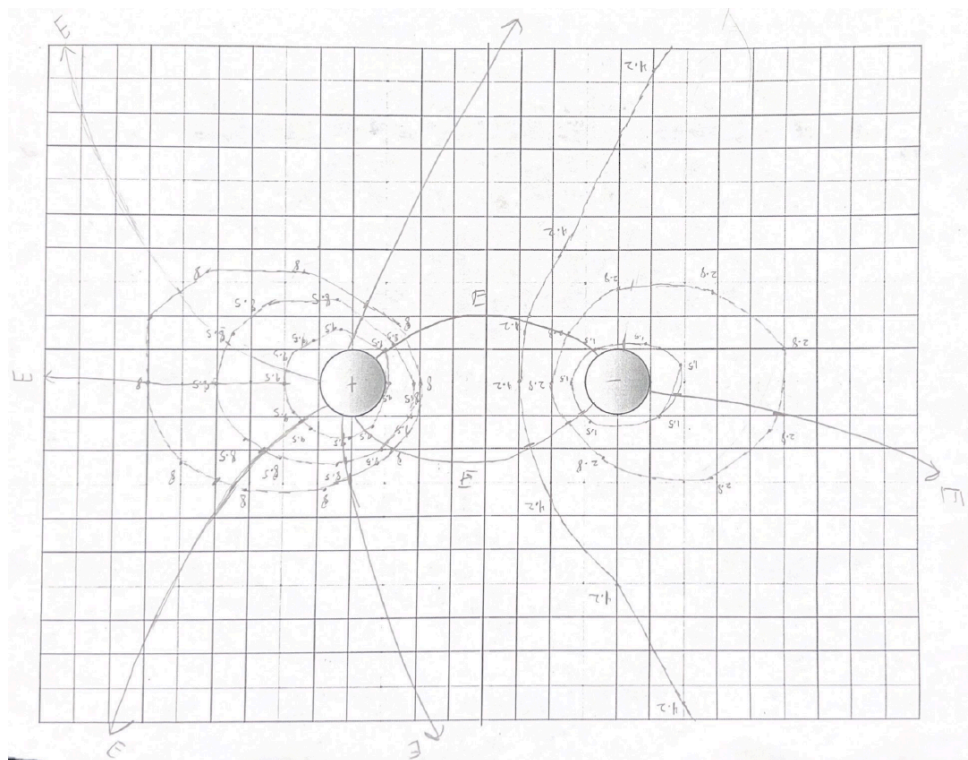
### Concentric Cylinders



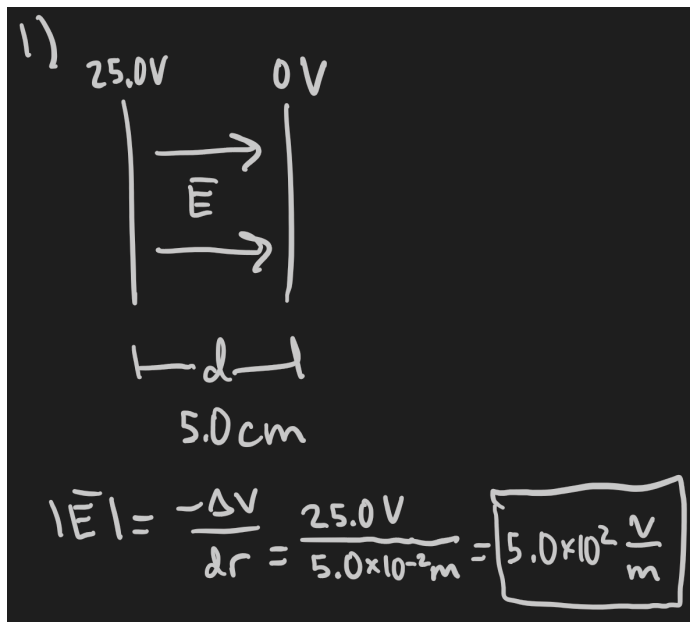
## Parallel Plates



## Dipole



### Question 1



### Question 2

Yes, our field lines for the dipole actually look similar to the expected diagram. Just like in the diagram, we have circular curves of equipotential that are centered a bit behind the dipoles. For the positive dipole, we correctly drew the correct E-field lines. For the negative dipole, we drew lines  $90^\circ$  from the equipotential curves, but in the wrong direction.

### Question 3

The friend in this situation incorrectly drew the field orientation. According to the diagram,  $V$  only changes values as you move up or down vertically, and it doesn't change values as you move horizontally. In other words, it changes based on  $\hat{j}$ . That means that the perpendicular component of  $\vec{E}$  is actually in the  $\hat{i}$  direction.

A charge located on the 100 V curve would not change voltage and would remain 100 V in response to the friend's  $E_{\parallel}$