

Problem 23.40

The sketch below views the disk from its edge, so the plane in which we are examining the field lines is the plane of the page. If this had been a *conducting disk*, charge would have accumulated around the edges due to the phenomenon called “shielding” and the charge density would not have been uniform. As the charge density has been defined as uniform, I’m assuming this is an insulator that has had charge uniformly distributed throughout it. In that case, the field lines for a positive charge distribution would look more or less as shown below:

