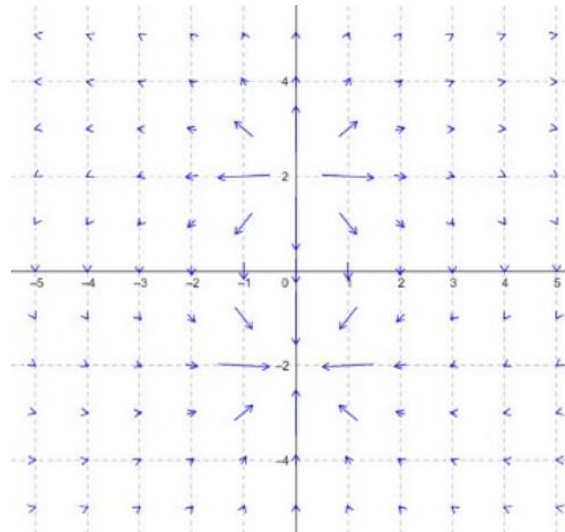Assignment 1 Q1

1a) Sketches for the vector field E in the plane z = 0

Using GeoGebra Online plotter, we will get

From the plane above, we can observe that the electric field diverges from the point (0,2,0) and converge back to the point (0, -2,0). As we have chosen our distance (d) to be 4, we can see that the positively charged particle and the negatively charged particle will be located at (0,2,0) and (0,-2,0) respectively. The observation above makes logical sense as the electric field lines diverges from the positively charged particle and converges at the negatively charged particle.

1b) Sketches for illustrative field lines for E in the z=0 plane