

- 1) Electric field lines begin on positive charges (or at infinity) and end on negative charges (or at infinity).
- 2) The tangent to the field line points in the direction of the force on a positive test charge.
- 3) The lines are drawn uniformly spaced entering or leaving an isolated an isolated point charge (or close "enough" to any point charge).
- 4) The number of lines leaving a positive charge or entering a negative charge is proportional to the magnitude of the charge.
- 5) The density of lines (the number of lines per unit area perpendicular to the lines) at any point is proportional to the magnitude of the field at that point.
- 6) At large distances from a system of charges with a net charge, the field lines are equally spaced and radial, as if they came from a single point charge equal to the net charge of the system.
- 7) Field lines do not cross. (If two field lines crossed, that would indicate two directions for E at the point of intersection.)