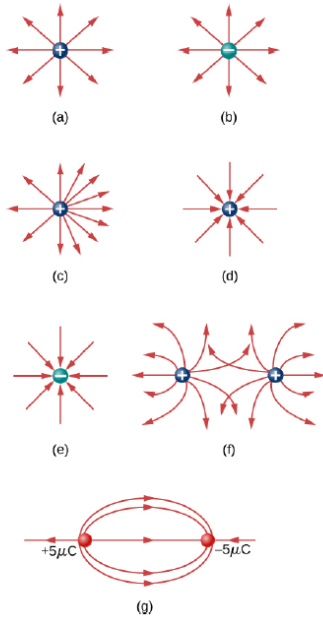


Chapter 5 Problem 100 †



**Solution**

Which of the following electric field lines are incorrect for point charges? Explain why.

- a) This one is correct. Lines leave a point charge symmetrically in all directions and radiate away from positive charges.
- b) This one is incorrect. The charge is negative and the electric field lines should be approaching the charge.
- c) This one is incorrect. The lines are not evenly distributed about the point charge. They are concentrated more to the right side.
- d) This one is incorrect. The charge is positive and the electric field lines should be radiating away from it, not converging on to it.
- e) This one is correct. Lines enter the point charge symmetrically in all directions and they converge on the negative charge.
- f) This is incorrect. The field lines should be spreading away from the location between the two positive charges. However, the lines should never cross other lines.
- g) This is incorrect. The lines are leaving the positive charge and entering the negative charge and the lines wrap around in about the right shape. However, the lines are tightly spaced above and below the middle line between the charges. As you get away from the charges the lines should be spreading out more. The second set of lines looping above and below the region between the charges should loop much further away.

---

†Problem from University Physics by Ling, Sanny and Moebs (OpenStax)