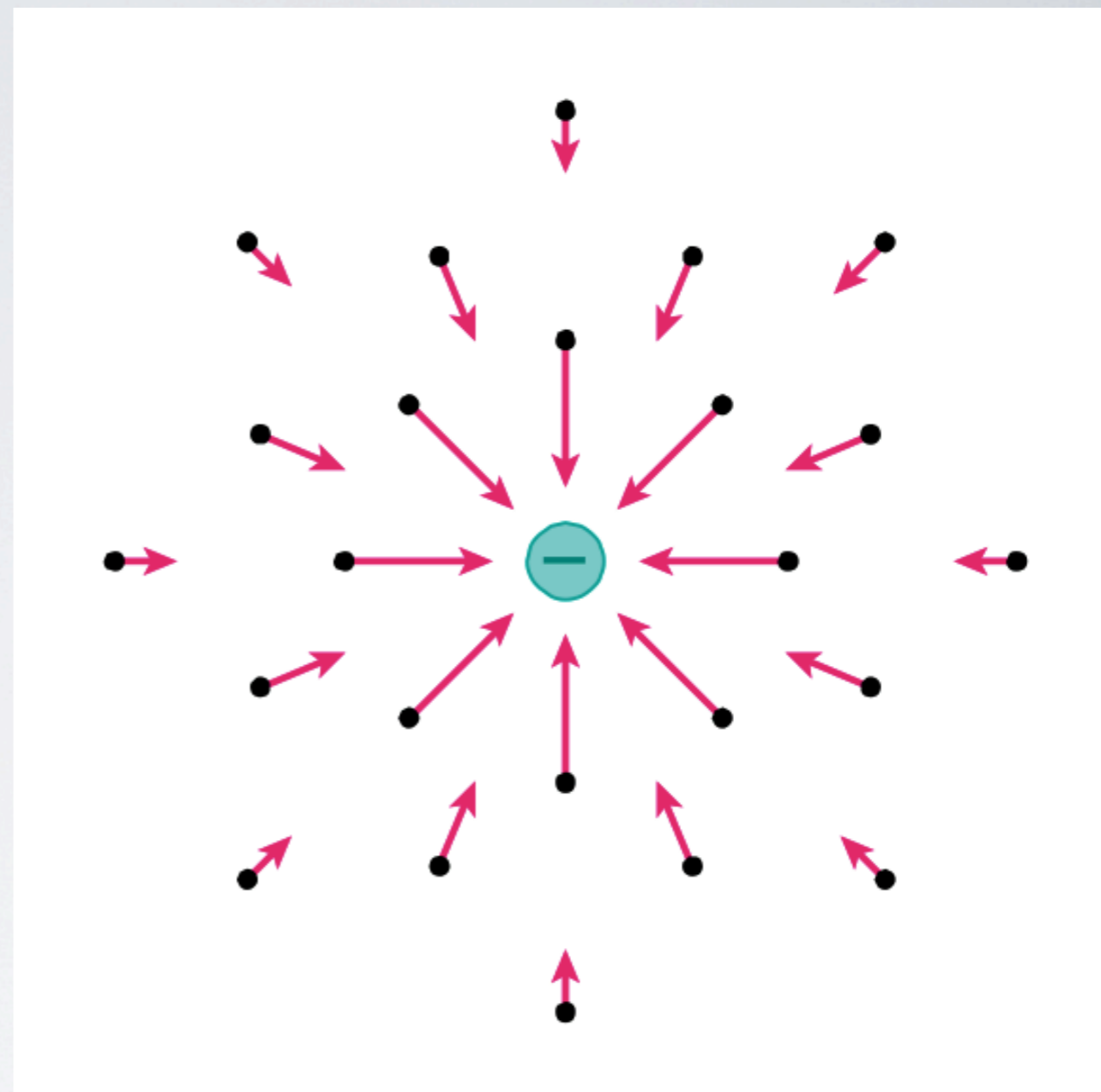
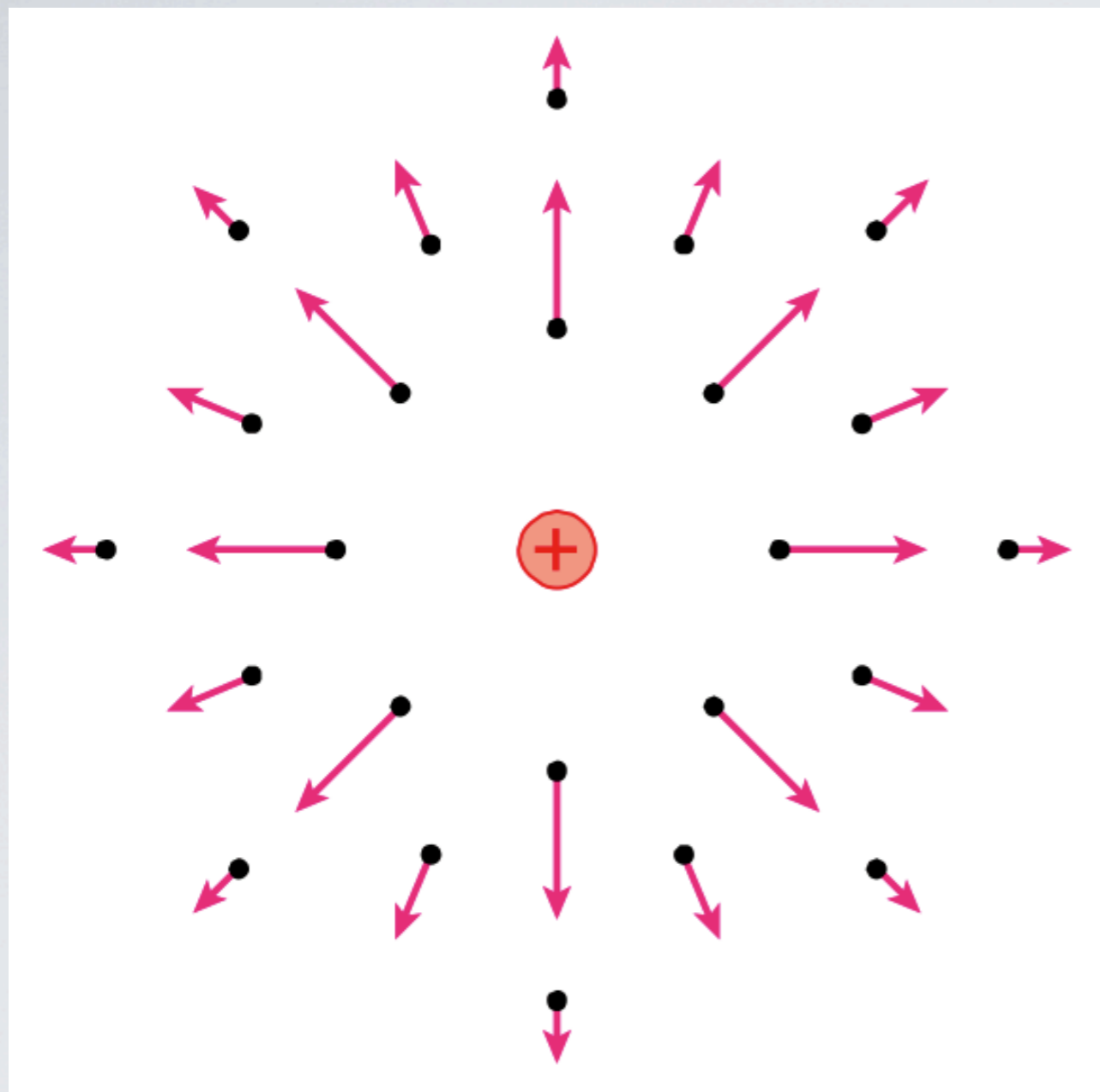


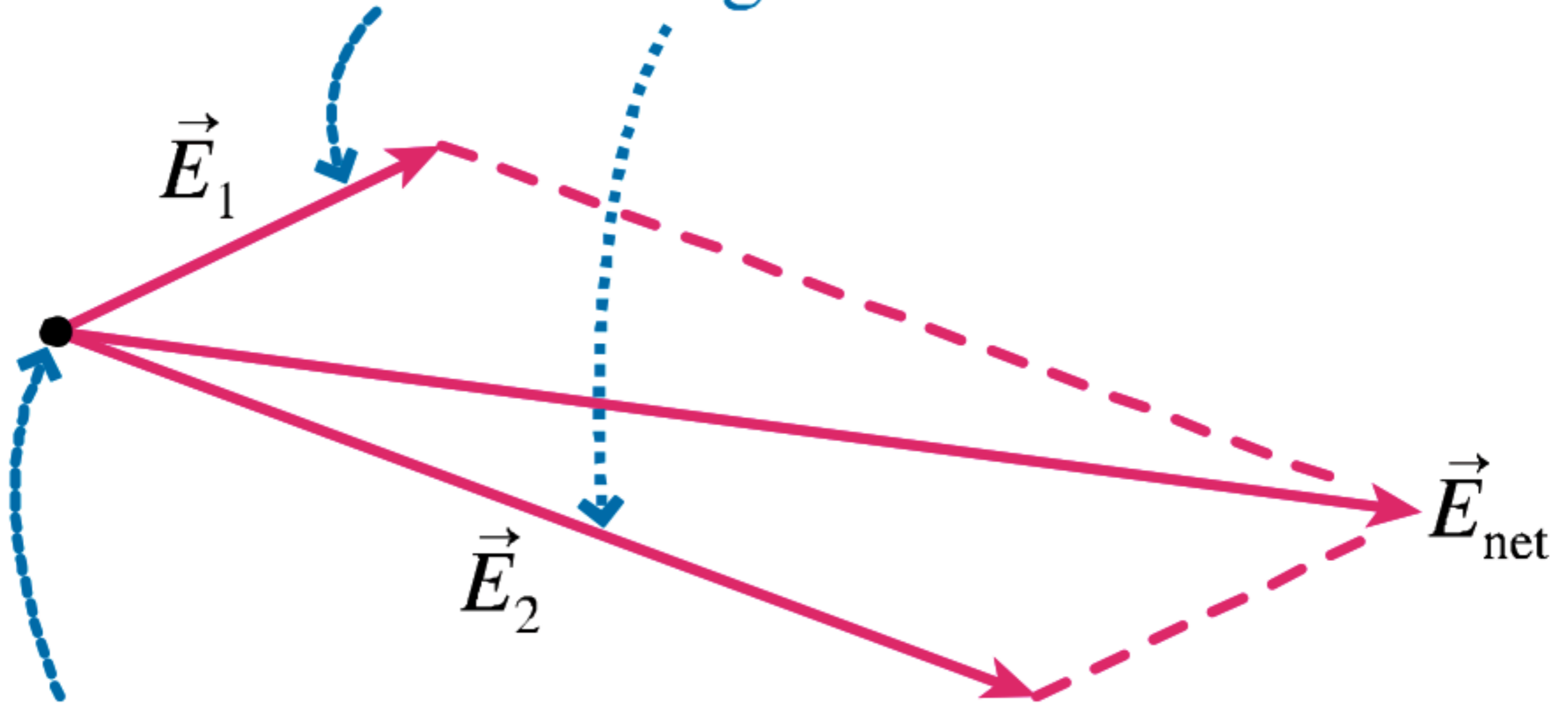
ELECTRIC FIELD

The electric field of a positive and a negative point charge.



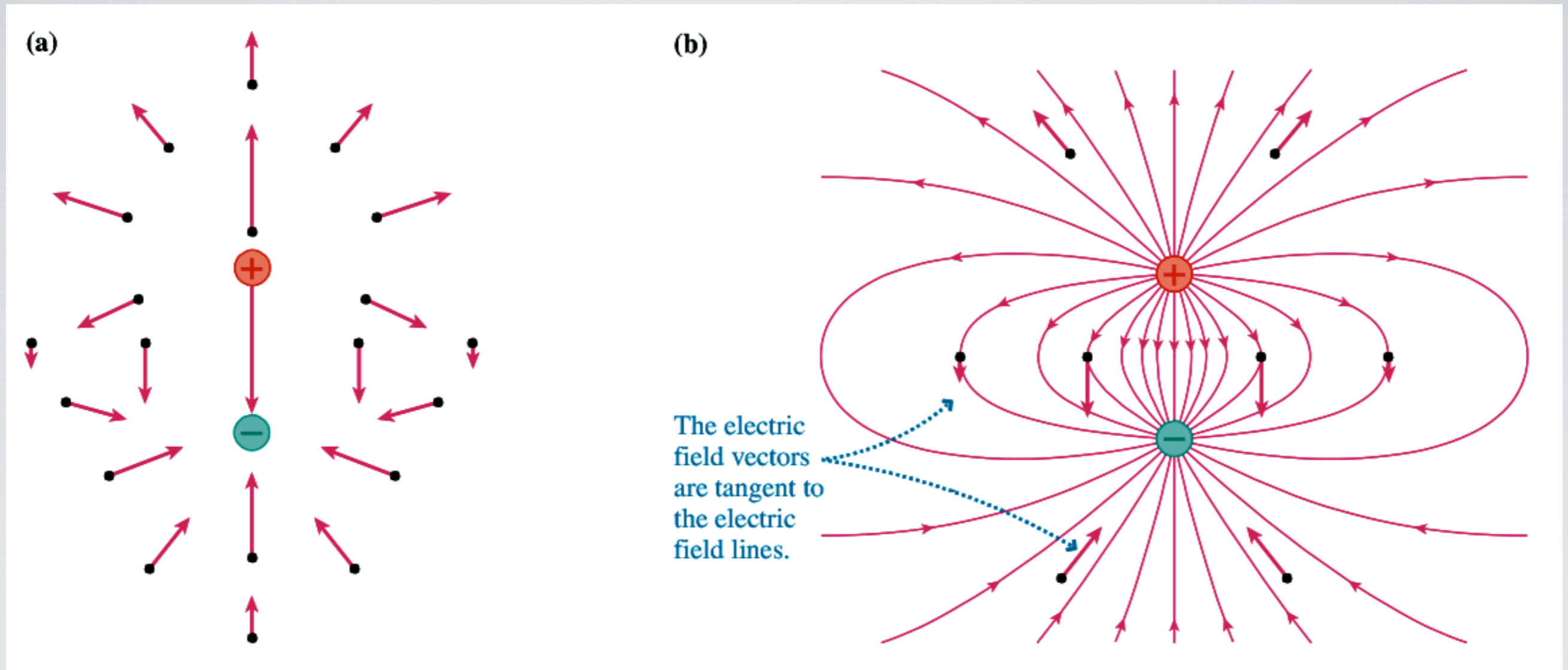
Electric fields obey the principle of superposition.

Fields of source charges 1 and 2

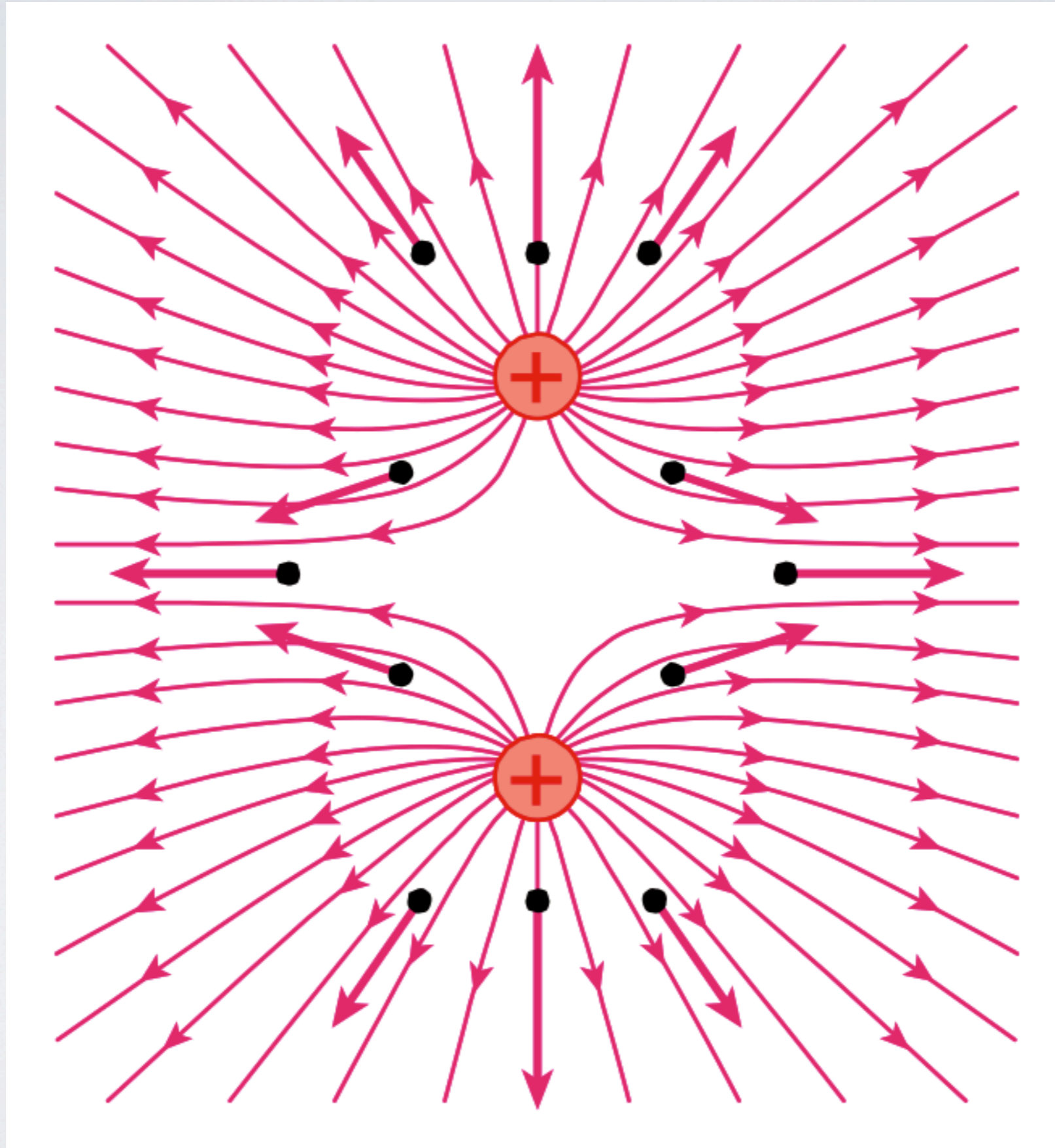


\vec{E}_{net} is the net electric field at this point.

The electric field of a dipole.



The electric field of two equal positive charges.



Exercise

At the dot, the electric field

points

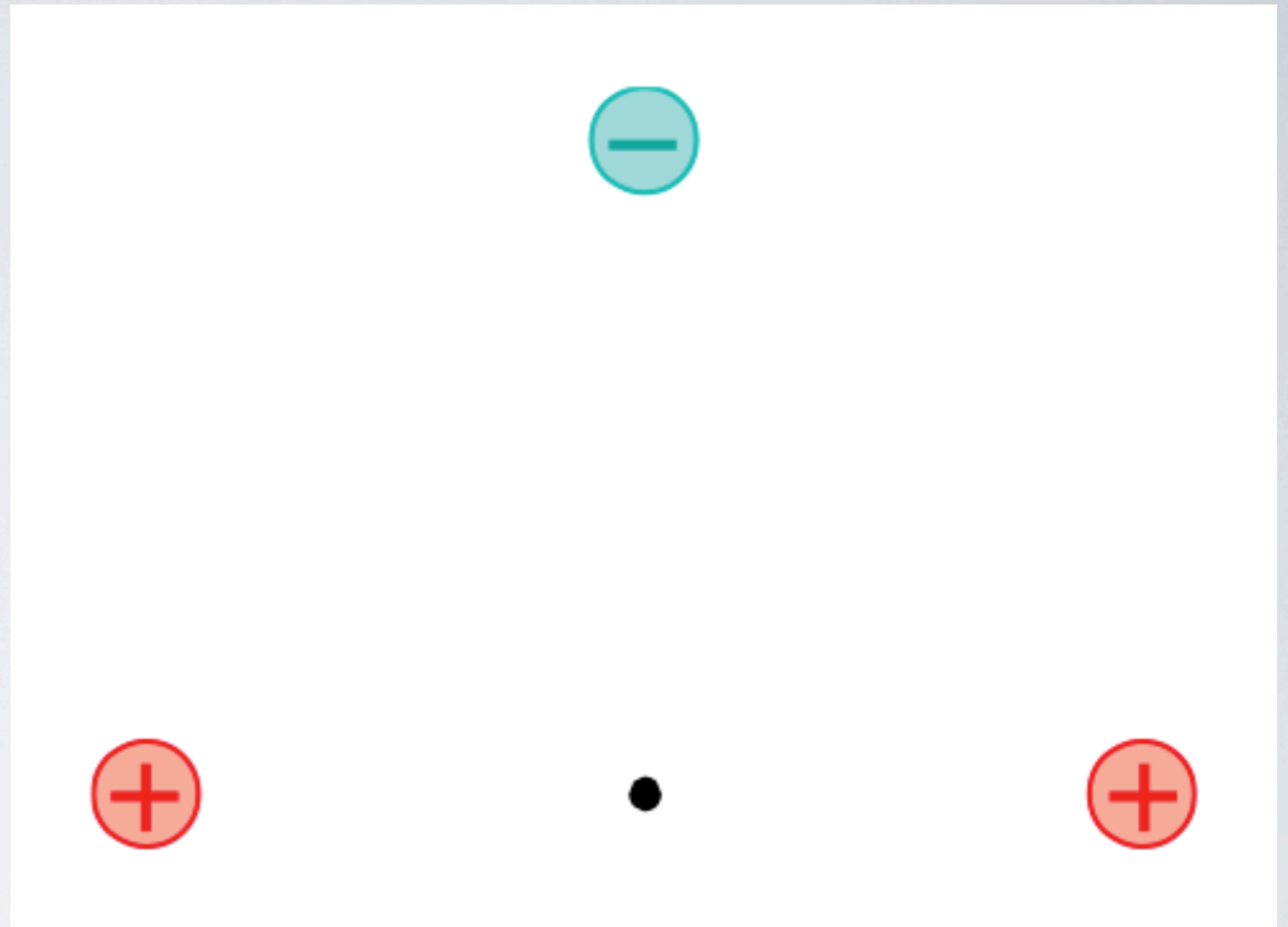
a. left.

b. right.

c. up.

d. down.

e. The electric field is zero.



Exercise Serway P23.19, p. 735

Four point charges are at the corners of a square of side a , as shown in the figure. (a) Determine the magnitude and direction of the electric field at the location of charge q . (b) What is the resultant force on q ?

Ans:

- a) $5.91k_e q/a^2$ at 58.8°
- b) $5.91k_e q^2/a^2$ at 58.8°

