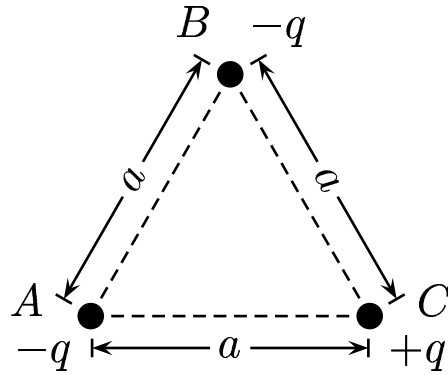






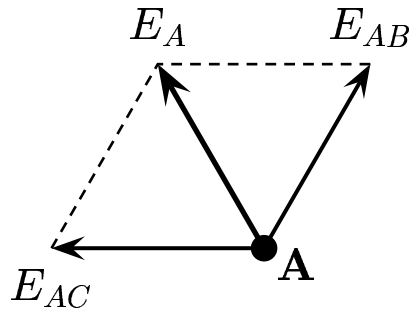
Three charges are located at the vertexes of an equilateral triangle, see sketch.



Excluding the charge at  $A$ , determine the direction of electric field vector and the potential at  $A$ .

- A) The direction of  $\vec{E}_A$  is  and the potential is  $V_A = 0$ .
- B) The direction of  $\vec{E}_A$  is  and the potential is  $V_A = -\frac{2kq}{a}$ .
- C) The direction of  $\vec{E}_A$  is  and the potential is  $V_A = 0$ .
- D) The direction of  $\vec{E}_A$  is  and the potential is  $V_A = -\frac{2kq}{a}$ .

At  $A$ , the vector diagram of  $E_{AB} + E_{AC}$  is given by



$$V_A = V_{AB} + V_{AC} = -\frac{kq}{a} + \frac{kq}{a} = 0.$$

Answer **C**.

25.03-04 Three Charges at Corners of an Equilateral Triangle 2004-3-24