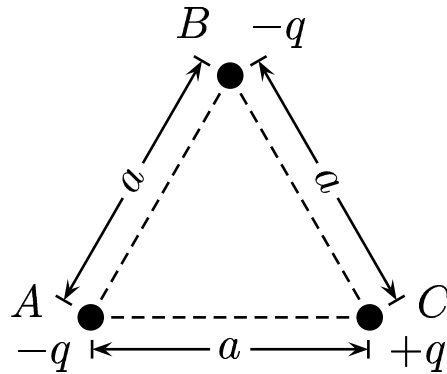


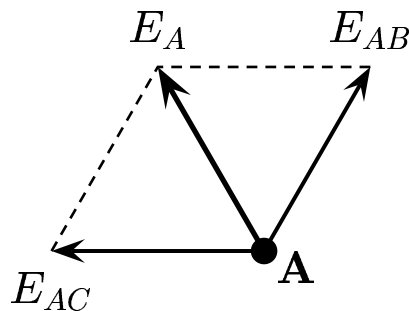
Three charges are located at the vertexes of an equilateral triangle, see sketch.



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**.