## Question 1

In the following separate scenarios two source charges produce electric fields. Consider the magnitude of the field at the location midway between the two source charges.

Case A



Case B



 $+2\,\mathrm{C}$ Case C



 $-2\,\mathrm{C}$ 

Which of the following describes the rank of the magnitudes of the fields at the midpoint?

1. 
$$E_{C} > E_{A} = E_{B}$$

2. 
$$E_{A} = E_{B} = E_{C}$$

3. 
$$E_{A} = E_{B} > E_{C}$$

4. 
$$E_{A} > E_{B} > E_{C}$$

5. 
$$E_{C} > E_{A} > E_{B}$$