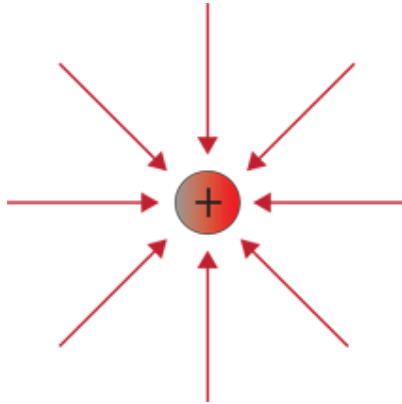
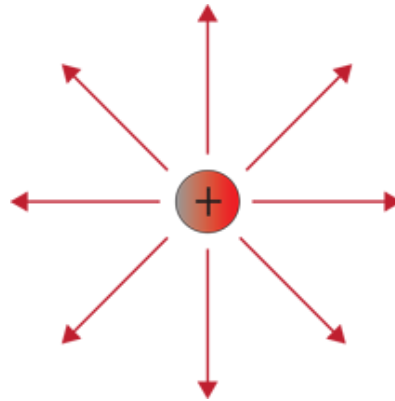


1 Which of the following represents the electric field map due to a single positive charge?

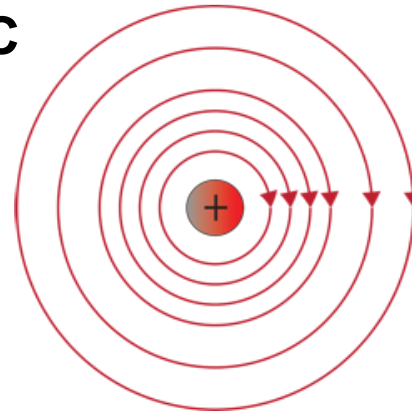
☐ A



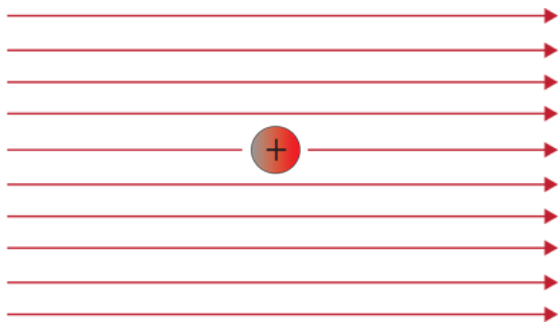
☐ B



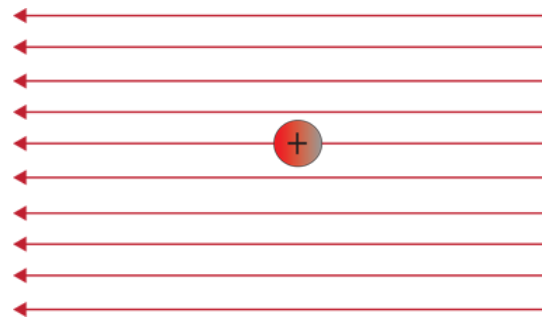
☐ C



☐ D

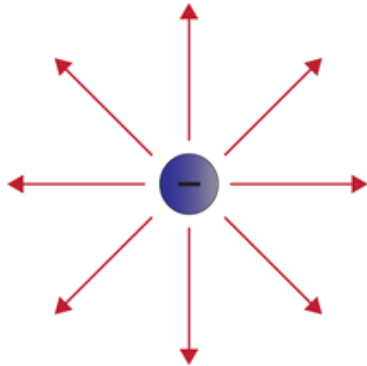


☐ E

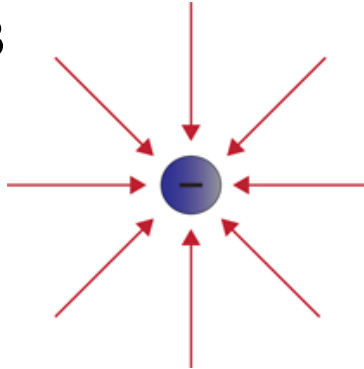


2 Which of the following represents the electric field map due to a single negative charge?

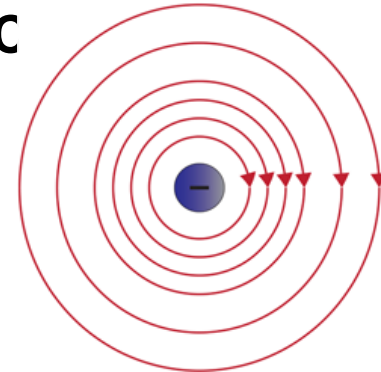
☐ A



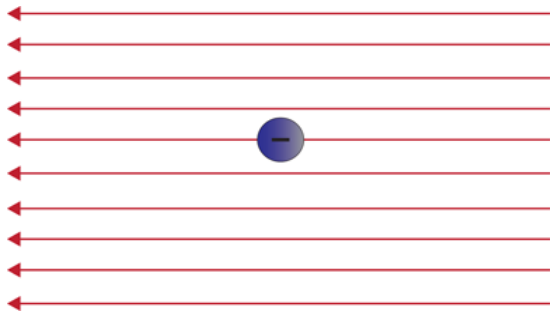
☐ B



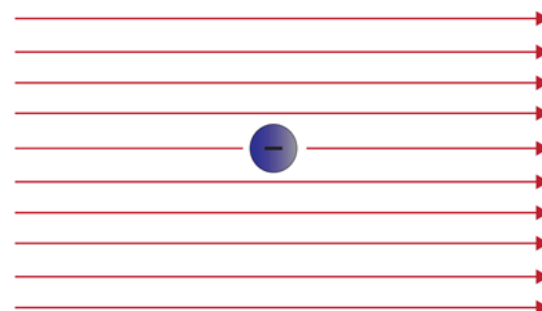
☐ C



☐ D

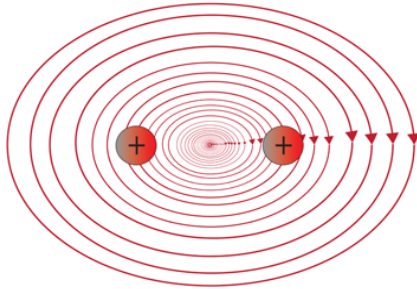


☐ E

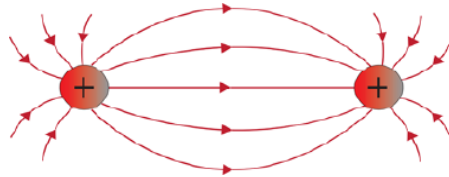


3 Which of the following represents the electric field map due to a combination of two positive charges?

☐ A



☐ B



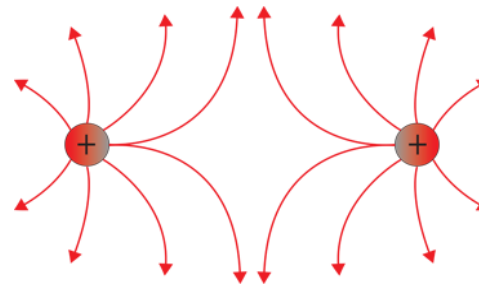
☐ C



☐ D

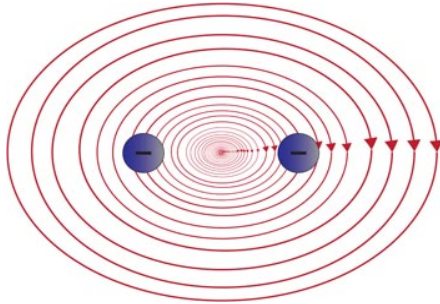


☐ E

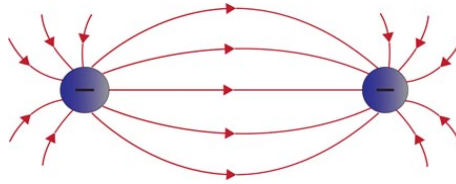


4 Which of the following represents the electric field map due to a combination of two negative charges?

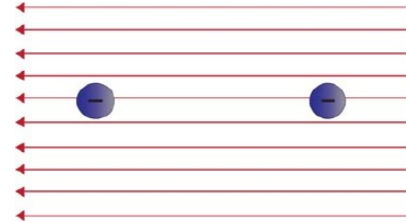
☐ A



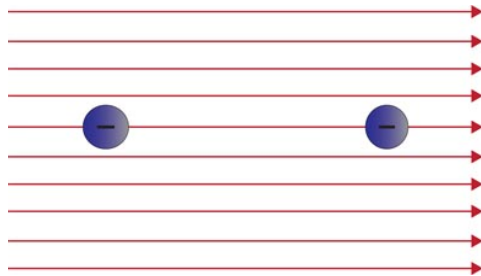
☐ B



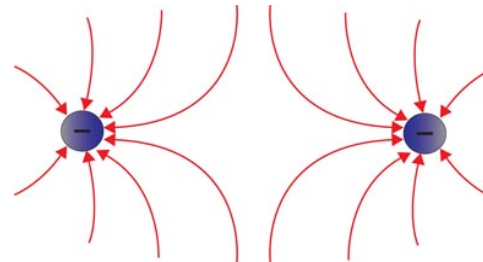
☐ C



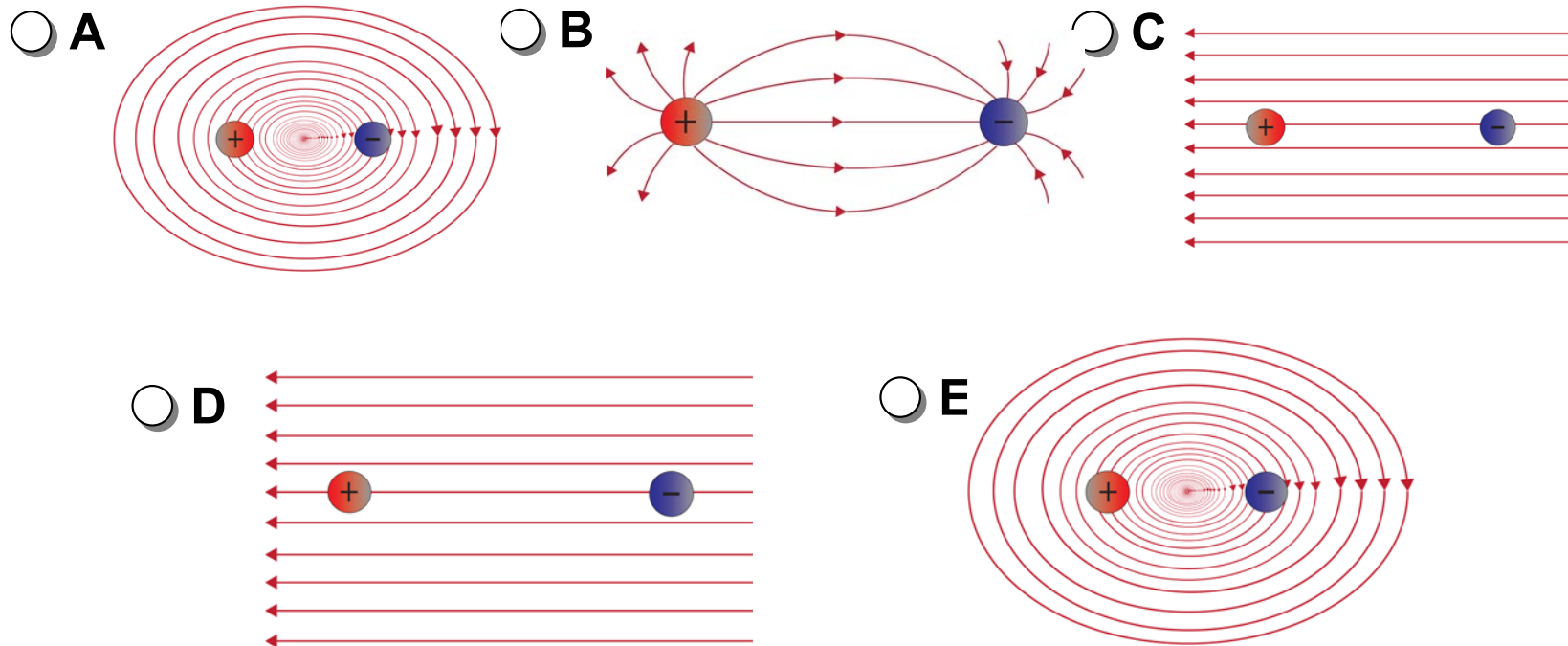
☐ D



☐ E



5 Which of the following represents the electric field map due to a combination of one positive and one negative charge?



6 Compare the Gravitational Field and the Electric Field produced by a proton.

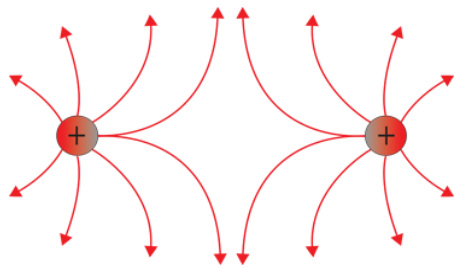
- ☐ A The Gravitational Field is the same strength as the Electric Field.
- ☐ B The Electric Field is stronger and is in the same direction as the Gravitational Field.
- ☐ C The Electric Field is stronger and in the opposite direction of the Gravitational Field.
- ☐ D The Gravitational Field is stronger and is in the same direction as the Electric Field.

7 Which of the following is true inside a conducting sphere with a net positive charge that is insulated from the ground?

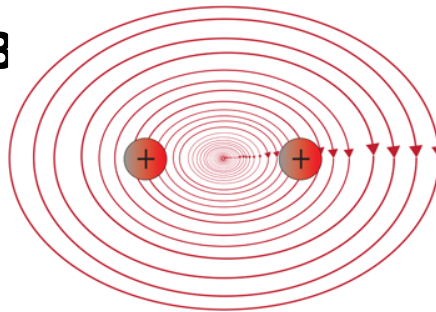
- ☐ A The Electric Field and the Electric Potential are zero.
- ☐ B The Electric Field is zero and the Electric Potential decreases the further away from the center.
- ☐ C The Electric Field has a positive, non-zero value and the Electric Potential is equal to the Electric Potential at the surface.
- ☐ D The Electric Field is zero and the Electric Potential is equal to the Electric Potential at the surface.

8 Which of the following is a uniform electric field?

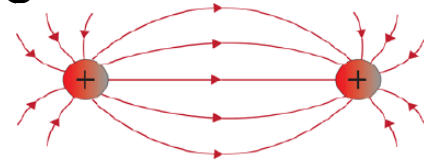
☐ A



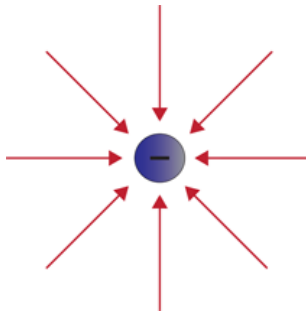
☐ B



☐ C



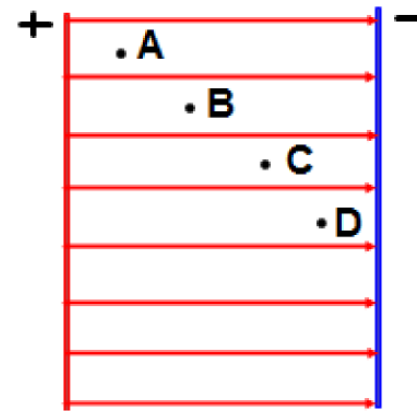
☐ D



☐ E



9 An electric field is created by two parallel plates. At which of the following points is the electric field the strongest?



☐ A A

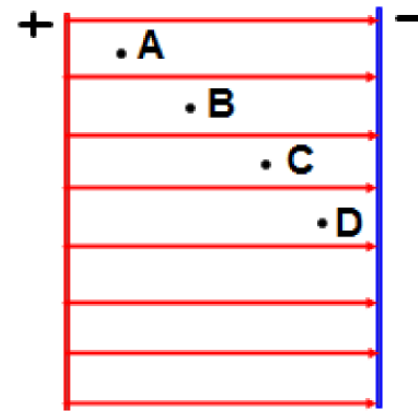
☐ B B

☐ C C

☐ D D

☐ E The electric field is the same at all points

10 An electric field is created by two parallel plates. Which of the following points corresponds to the higher potential?



☐ A **A**

☐ B **B**

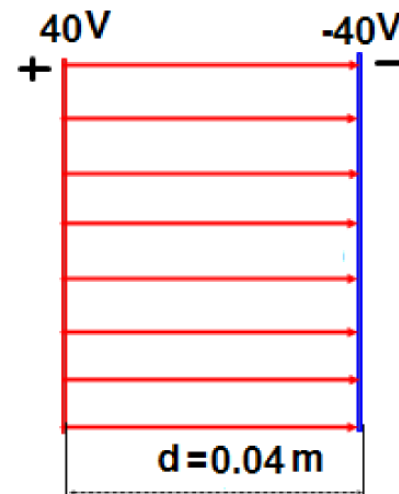
☐ C **C**

☐ D **D**

☐ E **The electric potential is the same at all points**

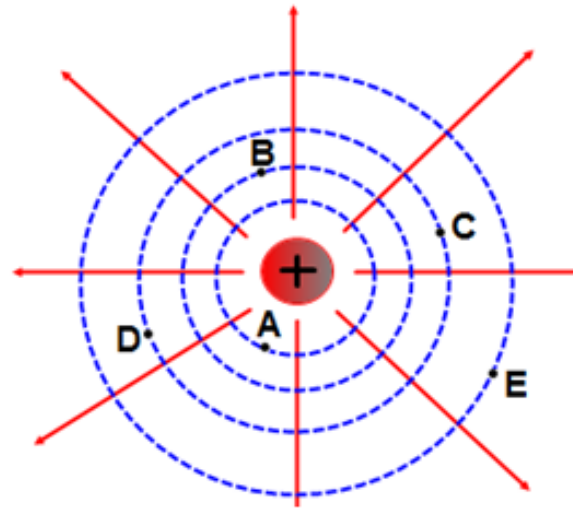
11 A uniform electric field is created by two parallel plates separated by a distance of 0.04 m. What is the magnitude of the electric field established between the plates?

- ☐ A **20 V/m**
- ☐ B **200 V/m**
- ☐ C **2,000 V/m**
- ☐ D **20,000 V/m**
- ☐ E **0 V/m**



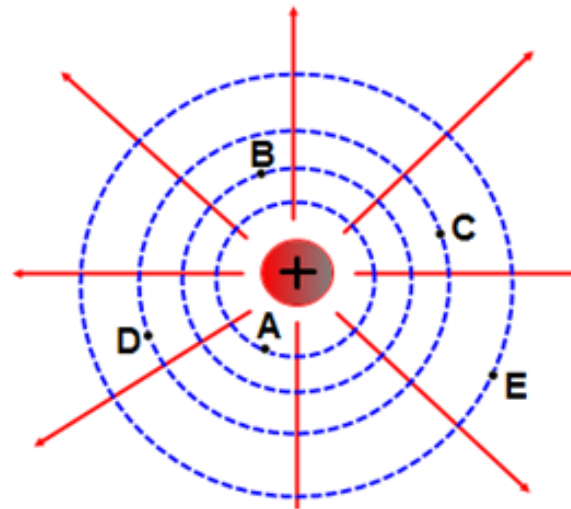
12 An electric field due to a positive charge is represented by the diagram. Which of the following points has higher potential?

- ☐ A **A**
- ☐ B **B**
- ☐ C **C**
- ☐ D **D**
- ☐ E **E**



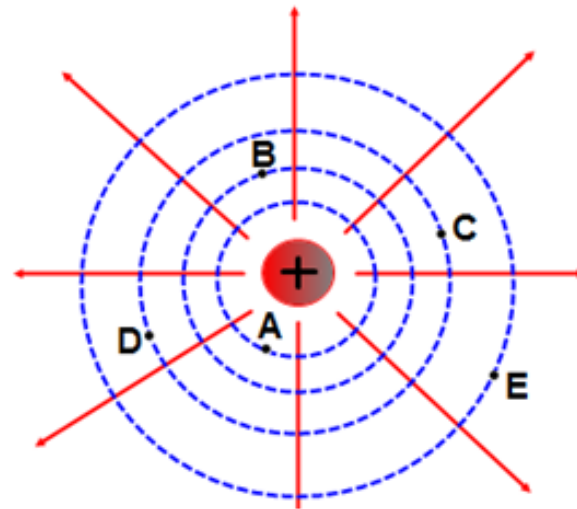
13 An electric field due to a positive charge is represented by the diagram. At which of the following points is the electric field strongest in magnitude?

- ☐ A **A**
- ☐ B **B**
- ☐ C **C**
- ☐ D **D**
- ☐ E **E**



14 An electric field due to a positive charge is represented by the diagram. Between which of the following two points does the electric field do zero work on a moving charge?

- ☐ A **A and B**
- ☐ B **B and C**
- ☐ C **C and D**
- ☐ D **D and E**
- ☐ E **E and A**



15 The electric potential at point A is V . What is the electric potential at point B in terms of V ?

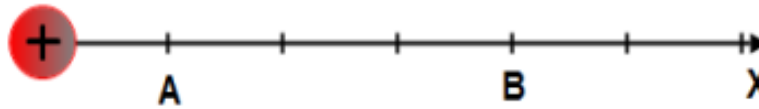
☐ A **$2V$**

☐ B **$4V$**

☐ C **V**

☐ D **$\frac{1}{2}V$**

☐ E **$\frac{1}{4}V$**



**16 The magnitude of the electric field at point A is E.
What is the electric field at point B in terms of E?**

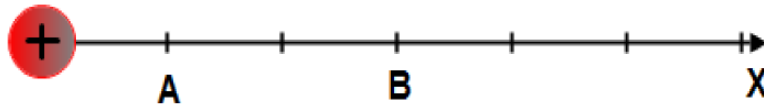
☐ A **3 E**

☐ B **9 E**

☐ C **E**

☐ D **$\frac{1}{3} E$**

☐ E **$\frac{1}{9} E$**

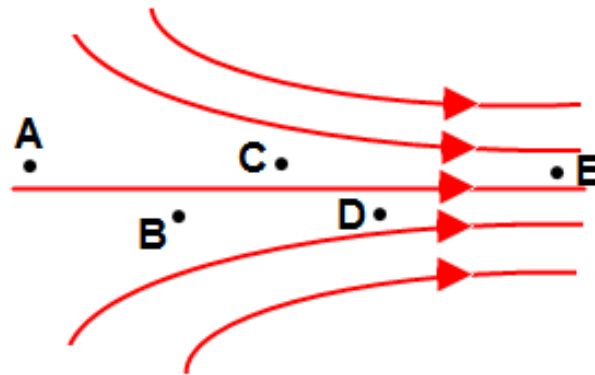


17 A conducting sphere is negatively charged. Which of the following statements is true?






- ☐ **A The charge is uniformly distributed throughout the entire volume**
- ☐ **B The charge is located at the center of the sphere**
- ☐ **C The charge is located at the bottom of the sphere because of gravity**
- ☐ **D The charge is uniformly distributed on the surface of the sphere**
- ☐ **E The negative charge is neutralized by the positive charge**

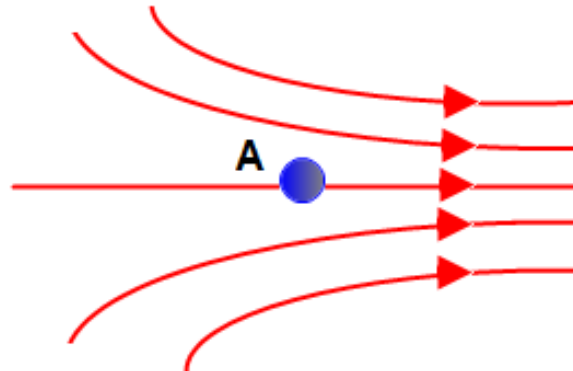
18 A non-uniform electric field is represented by the diagram. At which of the following points is the electric field greatest in magnitude?

- ☐ A **A**
- ☐ B **B**
- ☐ C **C**
- ☐ D **D**
- ☐ E **E**



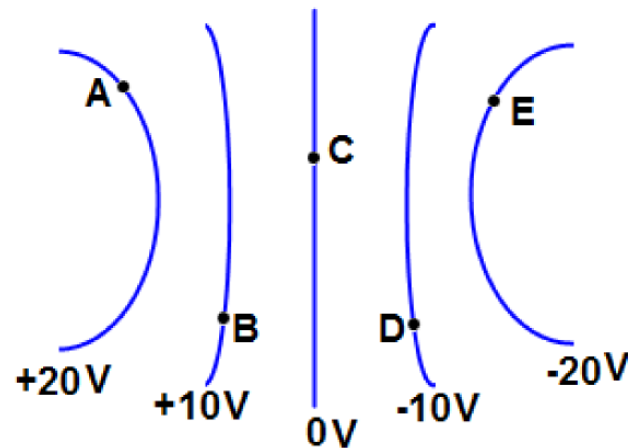
19 A small conducting sphere is placed in a region of a non-uniform electric field. What is the direction of the electric force on the sphere applied by the field?

- ☐ A 
- ☐ B 
- ☐ C 
- ☐ D 
- ☐ E 



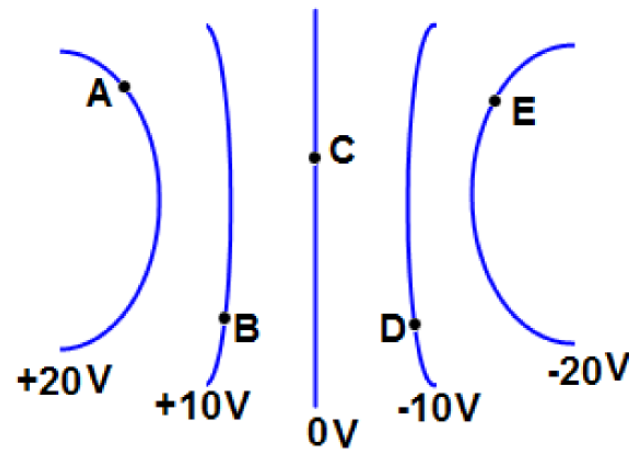
20 A non-uniform electric field is represented by equipotential lines. What is the direction of the electric field at point A?

- ☐ A \longrightarrow
- ☐ B \longleftarrow
- ☐ C
- ☐ D \downarrow
- ☐ E \uparrow



21 A non-uniform electric field is represented by equipotential lines. How much work is done by the electric field when a positive charge of magnitude $1\ \mu\text{C}$ moves from point A to point E?

- ☐ A $0\ \mu\text{J}$
- ☐ B $20\ \mu\text{J}$
- ☐ C $40\ \mu\text{J}$
- ☐ D $60\ \mu\text{J}$
- ☐ E $80\ \mu\text{J}$



22 A non-uniform electric field is represented by equipotential lines. A positive charge with a magnitude of $1\ \mu\text{C}$ moves in the following path: $A \rightarrow B \rightarrow C \rightarrow D \rightarrow E \rightarrow A$. How much work is done by the electric field?

- ☐ A $0\ \mu\text{J}$
- ☐ B $20\ \mu\text{J}$
- ☐ C $40\ \mu\text{J}$
- ☐ D $60\ \mu\text{J}$
- ☐ E $80\ \mu\text{J}$

