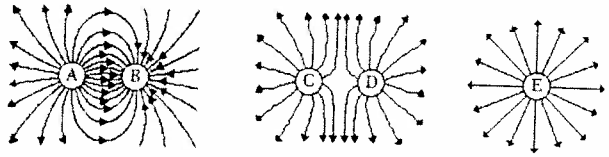
Sublevel 12 Electric Field Lines

1

SE12 Electric Field Lines

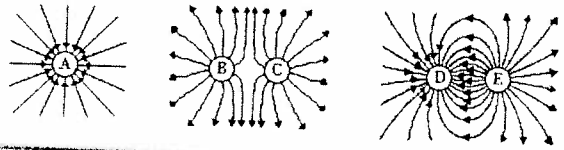
Consider field lines surrounding objects A-E below. Which of these objects are charged positively? List all that apply in alphabetical order with no commas or spaces between letters.



2

SE12 Electric Field Lines

Consider field lines surrounding objects A-E below. Which of these objects are charged negatively? List all that apply in alphabetical order with no commas or spaces between letters.



3

SE12 Electric Field Lines

The three diagrams below represent electric field lines for a configuration of charges. Which diagram(s) correctly represent two like-charged objects? List all that apply with no commas or spaces between letters.

Diagram A

Diagram B

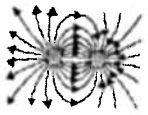
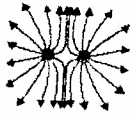


Diagram C



4

SE12 Electric Field Lines

The three diagrams below represent electric field lines for a configuration of charges. Which diagram(s) correctly represent two oppositely-charged objects? List all that apply with no commas or spaces between letters.

Diagram A

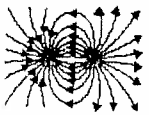


Diagram B

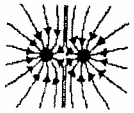
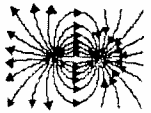


Diagram C



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SE12 Electric Field Lines

Electric field lines have a distinct direction. In general, electric field lines can be directed ____. List the three that apply in alphabetical order with no commas or spaces between letters.

a. from a - charge to a + charge
b. from a + charge to a - charge
c. from a - charge to a - charge
d. from a + charge to a + charge
e. from infinity to a + charge
f. from infinity to a - charge
g. from a + charge to infinity
h. from a - charge to infinity

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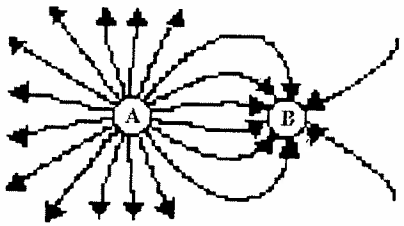
SE12 Electric Field Lines

Electric field lines for charges A and B are shown below. Which of the following statements is/are consistent with the diagram. List all that apply in alphabetical order with no commas or spaces between letters.

a. A is - and B is +
b. A is + and B is -
c. Both A and B are -
d. Both A and B are +
e. B has more charge than A
f. A has more charge than B
g. The charge of A and B are the same.



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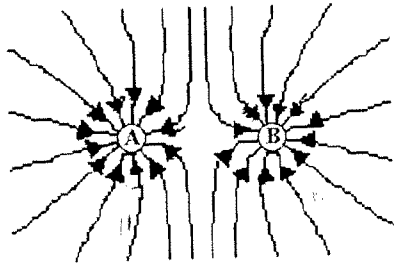
SE12 Electric Field Lines

Electric field lines for charges A and B are shown below. Which of the following statements is/are consistent with the diagram. List all that apply in alphabetical order with no commas or spaces between letters.

a. A has more charge than B
b. B has more charge than A
c. Both A and B are -
d. Both A and B are +
e. A is + and B is -
f. A is - and B is +
g. The charge of A and B are the same.



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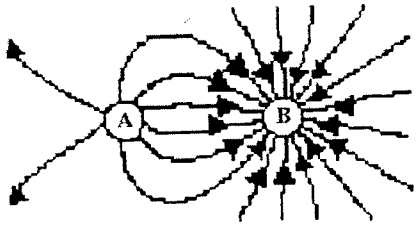
SE12 Electric Field Lines

Electric field lines for charges A and B are shown below. Which of the following statements is/are consistent with the diagram. List all that apply in alphabetical order with no commas or spaces between letters.

a. B has more charge than A
b. A has more charge than B
c. Both A and B are +
d. Both A and B are -
e. A is - and B is +
f. A is + and B is -
g. The charge of A and B are the same.

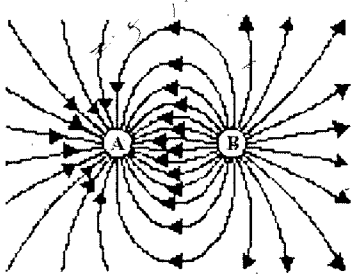


9

SE12 Electric Field Lines

Electric field lines for charges A and B are shown below. Which of the following statements is/are consistent with the diagram. List all that apply in alphabetical order with no commas or spaces between letters.

a. A has more charge than B
b. B has more charge than A
c. Both A and B are -
d. Both A and B are +
e. A is + and B is -
f. A is - and B is +
g. The charge of A and B are the same.



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SE12 Electric Field Lines

Two positively-charged objects A and B are charged and create an electric field. The electric field strength at the point precisely midway between these two charges is 10 N/C, directed leftward. This provides evidence that ____.

a. the quantity of charge on A is equal to the quantity of charge on B
b. the quantity of charge on A is less than the quantity of charge on B
c. the quantity of charge on A is greater than the quantity of charge on B
d. ... nonsense! This could never be possible. The E is 0 N/C at the midpoint.
e. None of these apply.