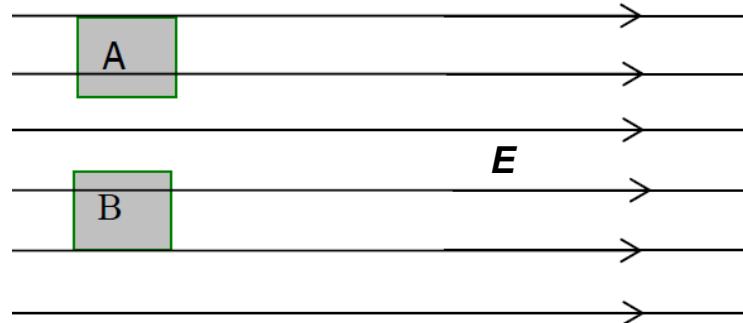


- 18 Consider the two objects shown below, which are in a uniform electric field of magnitude E . Object A has mass m and charge q , while object B has mass $2m$ and charge $-2q$. At time $t = 0$ both objects are released from rest. Ignore any forces acting between the two objects A and B and consider only the effects of the electric field E .



At an instant some time later,

- A** object A will have lost some potential energy and object B will have gained an equal amount of potential energy.
- B** object A will have lost some potential energy and object B will have gained twice as much potential energy.
- C** object A and object B will have lost the same amount of potential energy.
- D** object A will have lost some potential energy and object B will have lost twice as much potential energy.

