

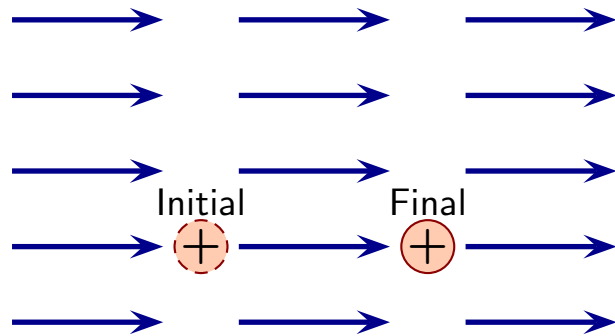
Warm Up Question 1

During a thunderstorm in the middle of a flat prairie, you have the choice of sitting inside either a small fiberglass trailer or else an aluminum trailer (Airstream!). Inside which of these will you be safer from a lightening strike? Explain your answer.

1. Aluminum. No electric field inside a conductor.
2. Aluminum. Charges will only reside on surface of the trailer.
3. Aluminum. Charge passes around the surface of the trailer.
4. Fiberglass. It does not conduct.

Question 1

A hidden collection of fixed charges produces the uniform electric field as illustrated. A positively charged particle moves in a straight line from the indicated initial to final location.

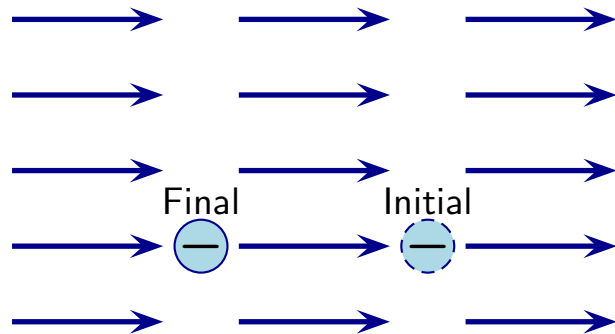


Which of the following is true regarding the work done by the electric field on the particle?

1. $W > 0$.
2. $W < 0$.
3. $W = 0$.
4. W depends on the speed of the charge.

Question 2

A hidden collection of fixed charges produces the uniform electric field as illustrated. A *negatively* charged particle moves in a straight line from the indicated initial to final location.



Which of the following is true regarding the work done by the electric field on the particle?

1. $W > 0$.
2. $W < 0$.
3. $W = 0$.
4. W depends on the speed of the charge.

Warm Up Question 2

An electron is fired toward a negatively charged metal plate. As the electron approaches the plate does its electric potential energy decrease, increase or stay the same? Explain your answer.

1. Increases. The repulsive force increases.
2. Increases. Speed decreases so to conserve energy potential energy increases.
3. Increases. The electron moves against the force.
4. Decreases. The electron gains kinetic energy and loses potential energy.