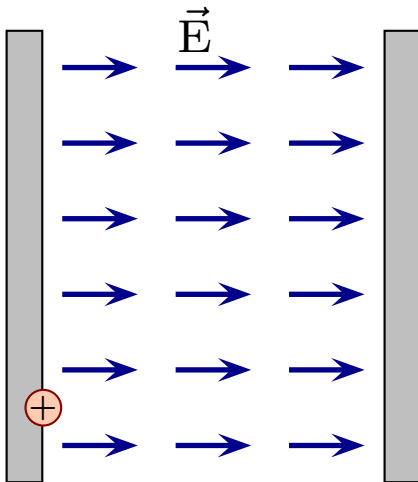


Question 1

Two charged plates produce a uniform electric field as illustrated. A particle is released from rest at one of the plates.

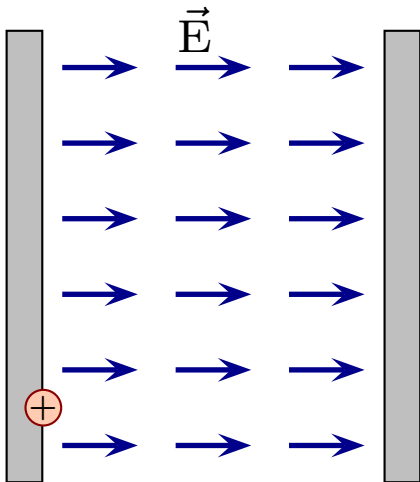


Which of the following is true?

1. There is no force on the particle.
2. There is a constant force on the particle as it moves.
3. There is an increasing force on the particle as it moves.
4. There is a decreasing force on the particle as it moves.

Question 2

Two charged plates produce a uniform electric field as illustrated. A particle is released from rest at one of the plates.

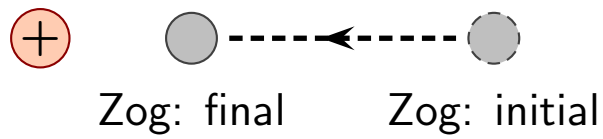


Which of the following is true?

1. The particle moves with a constant speed from left to right.
2. The particle moves with a steadily increasing speed from left to right.
3. The particle moves with a steadily decreasing speed from left to right.
4. The particle initially accelerates and subsequently moves with a constant speed from left to right.

Question 3

A positively charged particle (source) is held fixed. Another charged particle, Zog, fired toward the source a long time ago, moves toward the source particle.

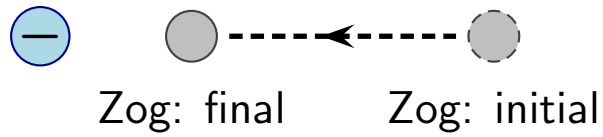


Assume that the only force acting on Zog is the electrostatic force due to the positively charged particle. Which of the following is true during this motion?

1. $\Delta U_{\text{elec}} > 0$ regardless of Zog's charge.
2. $\Delta U_{\text{elec}} < 0$ regardless of Zog's charge.
3. $\Delta U_{\text{elec}} > 0$ for positive Zog, $\Delta U_{\text{elec}} < 0$ for negative Zog.
4. $\Delta U_{\text{elec}} < 0$ for positive Zog, $\Delta U_{\text{elec}} > 0$ for negative Zog.

Question 4

A negatively charged particle (source) is held fixed. Another charged particle, Zog, fired toward the source a long time ago, moves toward the source particle.



Assume that the only force acting on Zog is the electrostatic force due to the negatively charged particle. Which of the following is true during this motion?

1. $\Delta U_{\text{elec}} > 0$ regardless of Zog's charge.
2. $\Delta U_{\text{elec}} < 0$ regardless of Zog's charge.
3. $\Delta U_{\text{elec}} > 0$ for positive Zog, $\Delta U_{\text{elec}} < 0$ for negative Zog.
4. $\Delta U_{\text{elec}} < 0$ for positive Zog, $\Delta U_{\text{elec}} > 0$ for negative Zog.