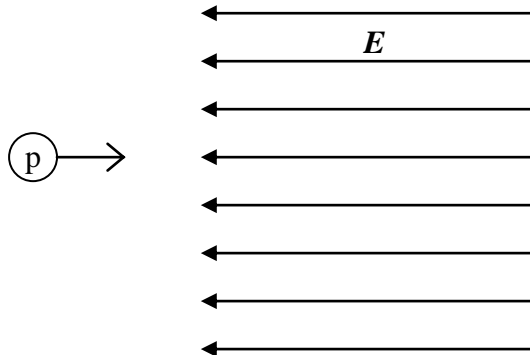


## AP Physics – Classwork (Electric Fields)

1. An electron is at rest when uniform electric field of  $750 \text{ N/C}$  in the  $+y$  direction is turned on.
  - What is the magnitude and direction of the electric force on the electron?
  - What is the magnitude and direction of the acceleration of the electron?
  - What is the displacement of the electron after  $5.0 \mu\text{s}$ , assuming the electron is initially at rest.
  - What is the final velocity of the electron after  $5.0 \mu\text{s}$ , assuming the electron is initially at rest.



2. A proton is moving at a constant speed of  $500 \text{ m/s}$  to the right when it enters an electric field pointing to the left. The proton is brought to rest  $2.5 \text{ ms}$  after entering the E-field.
  - Just as the proton enters the field, what is the direction of its velocity, force, and acceleration?
  - Describe the motion of the proton from the time it enters the electric field until the time it stops.
  - What is the electric field strength?