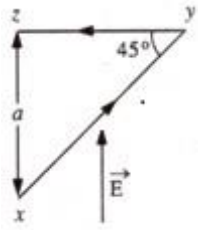


Answer on Question #47685-Engineering-Other

A unit positive charged moves in an electric field E , along the path xyz , the voltage between point x and z ?

Solution



The voltage difference between point x and z is

$$\Delta U = U_x - U_z = -\vec{E} \cdot (\vec{r}_x - \vec{r}_z) = Ea.$$

Note that a positive charge can move only from x to z , but not from z to x . It is because of direction of an electric field \vec{E} .