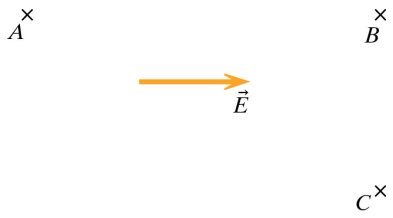
Quiz 4

1. In a region of space, there is a constant electric field $\vec{E} =< 800, 0, 0 >$ N/C. Locations A, B, and C are given:

   - $\vec{A} =< -0.5, 0, 0 >$ m
   - $\vec{B} =< 0.5, 0, 0 >$ m
   - $\vec{C} =< 0.5, -0.5, 0 >$ m

   Calculate ΔV along each of the following paths:

   (a) From A to B
   (b) From B to A
   (c) From B to C
   (d) From A to C



2. At a point in space the electric potential (relative to infinity) can be expressed as:

$$V = 3x^2 - 4y + z^3$$

   What is the electric field vector $\vec{E}$ at this location?