

79. We connect  $A$  to the origin with a line along the  $y$  axis, along which there is no change of potential (Eq. 25-18:  $\int \vec{E} \cdot d\vec{s} = 0$ ). Then, we connect the origin to  $B$  with a line along the  $x$  axis, along which the change in potential is

$$\Delta V = - \int_0^{x=4} \vec{E} \cdot d\vec{s} = -4.00 \int_0^4 x \, dx = -4.00 \left( \frac{4^2}{2} \right)$$

which yields  $V_B - V_A = -32 \text{ V}$ .