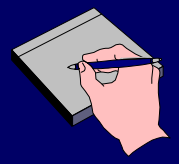
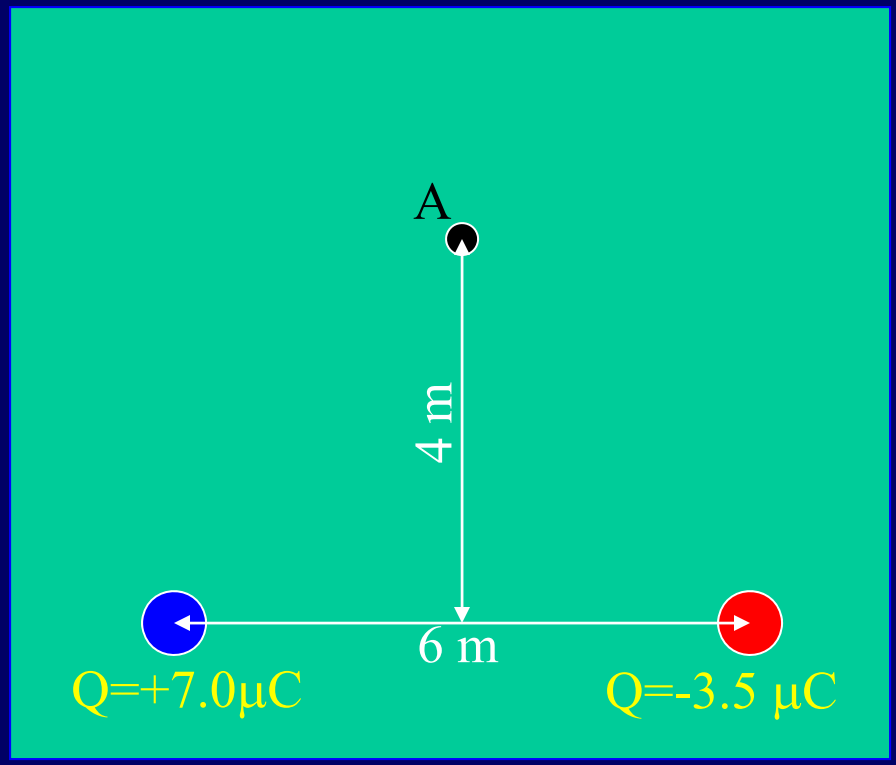
Two Charges



- Calculate electric potential at point A due to charges
  - Calculate V from +7μC charge
  - Calculate V from –3.5μC charge
  - Add (EASY! NO VECTORS)



$V = kq/r$

$V_7 = (9\times10^9)(7\times10^{-6})/5 = 12.6\times10^3 V$

$V_3 = (9\times10^9)(-3.5\times10^{-6})/5 = -6.3\times10^3 V$

$V_{total} = V_7 + V_3 = +6.3\times10^3 V$

How much work do you have to do to bring a 2 μC charge from far away to point A?

$W = \Delta U = Vq$

$= (+6.3\times10^3 V)(2\mu C)$

$= +12.6$ mJ