Answer on Question #47466, Physics, Electrodynamics

A point charge q = -8.0 nC is located at the origin. Find the electric-field vector at the field point r = (1.2, -1.6) m.

Solution

Distance to point is

$$r = \sqrt{1.2^2 + 1.6^2} = 2$$

Hence, field is

$$E = k\frac{q}{r^2} = 9 \cdot 10^9 \frac{-8 \cdot 10^{-9}}{2^2} = 180\, V/m$$