9/14/23

Quiz 2

Josiah Schnitz

Q=390 nC 2 cm/ 2 mg DE $E_{y} = 0 \quad \theta = \frac{3\pi}{2}$ $\frac{DQ}{DQ} = \frac{2Q}{3\pi} \quad DQ = \frac{2Q}{3\pi} DQ$ $DE_{x} = \frac{KDQ}{R^{2}} \sin \theta = \frac{K2Q}{3\pi R^{2}} \sin \theta DQ$ $\int_{-17}^{17} \frac{(9.10^{9})(2)(390.10^{-9})}{3\pi (0.12)^{2}} \sin \theta DQ$

 $51,725 (sin \frac{\pi}{4} - sin \frac{\pi}{4})$ $51,725 (sin \frac{\pi}{4} - sin \frac{\pi}{4})$ $51,725 (\frac{12}{2} + \frac{\sqrt{2}}{2}) = 51,725 (\sqrt{2})$ 73,150 = 2