# Superposition in Coulomb's Law

Three point charges $q_1$, $q_2$, and $q_3$ lie along the $x$-axis at $x = -0.4$ m, $0$ m, and $1.0$ m, respectively. Calculate the magnitude and direction of electrostatic force on charge $q_3$ when

$$q_1 = +1.3 \times 10^{-5}\,\mathrm{C},$$
$$q_2 = -6.0 \times 10^{-5}\,\mathrm{C},\ \text{and}$$
$$q_3 = -5.7 \times 10^{-5}\,\mathrm{C}.$$