

16. In applying Eq. 24-27, we are assuming $V \rightarrow 0$ as $r \rightarrow \infty$. All corner particles are equidistant from the center, and since their total charge is

$$2q_1 - 3q_1 + 2q_1 - q_1 = 0,$$

then their contribution to Eq. 24-27 vanishes. The net potential is due, then, to the two $+4q_2$ particles, each of which is a distance of $a/2$ from the center. In SI units, it is

$$V = \frac{1}{4\pi\epsilon_0} \frac{4q_2}{a/2} + \frac{1}{4\pi\epsilon_0} \frac{4q_2}{a/2} = \frac{16q_2}{4\pi\epsilon_0 a} = \frac{16(8.99 \times 10^9)(6.00 \times 10^{-12})}{0.39} = 2.21 \text{ V}.$$