

Physics 11
Lecture Problem 2 Solution

The distance from each corner to the center of the square is

$$r = \sqrt{.5^2 + .5^2} = .707 \text{ m}$$

$$V = k \frac{2 \times 10^{-6}}{.707} + k \frac{2 \times 10^{-6}}{.707} + k \frac{1 \times 10^{-6}}{.707} + k \frac{1 \times 10^{-6}}{.707} = (9 \times 10^9) \frac{6 \times 10^{-6}}{.707} = 7.6 \times 10^5 \text{ V}$$