



$$a^2 + b^2 = c^2$$

$$1^2 + 1^2 = c^2$$

$$2 = c^2$$

$$c = \sqrt{2} \text{ (only need half)}$$

$$= \frac{\sqrt{2}}{2}$$

$$q_1 = -3.0 \times 10^{-6} \text{ C}$$

$$q_2 = +3.0 \times 10^{-6} \text{ C}$$

$$r = \frac{1}{2}$$

$$K = 9 \times 10^9$$

$$E = \frac{K|Q_1|}{r^2} + \frac{K|Q_2|}{r^2}$$

$$= \frac{9 \times 10^9 \times 3.0 \times 10^{-6} \text{ C}}{\left(\frac{\sqrt{2}}{2}\right)^2} + \frac{9 \times 10^9 \times 3.0 \times 10^{-6}}{\left(\frac{\sqrt{2}}{2}\right)^2}$$

$$= 108000 \text{ N/C}$$

$$= \boxed{1.1 \times 10^5 \text{ N/C}}$$