

$$+q_1 = 5.0 \times 10^{-6} \text{ C}$$

$$F = 2.0 \times 10^{-4} \text{ N}$$

$$E = ?$$

$$= 40 \text{ N/C}$$

! (168) ~~cu c = 5.0e-6~~

$$E = \frac{F}{q} = \frac{2.0 \times 10^{-4}}{5.0 \times 10^{-6}} \quad (1)$$

$$q = 2.0 \times 10^{-8} \text{ C} \quad E = \frac{F}{q} = \frac{0.060}{2.0 \times 10^{-8}} \quad (2)$$

$$\vec{F} = 0.060 \text{ N}$$

$$E = ? = 3.0 \times 10^6 \text{ N/C}$$

$$\downarrow E$$

$$q = 6.5 \times 10^{-4} \text{ N/C} \quad q \cdot E = \frac{F}{q} \cdot q \Rightarrow q \cdot E = F \quad (3)$$

$$F = 2.1 \times 10^{-3} \text{ N}$$

$$q = ? \quad q = \frac{F}{E} = \frac{2.1 \times 10^{-3}}{-6.5 \times 10^4} = -3.231 \times 10^{-8}$$

$$\frac{0.30}{1.0 \times 10^{-6}} = 3.0 \times 10^5 \quad (4)$$

$$3.0 \times 10^5$$

$$= 0.66$$

$$\rightarrow 3.3 \times 10^5 \times 2 \times 10^{-6}$$

$$= 0.66$$

$$3.0 \times 10^{-6} = \frac{0.45}{1.5 \times 10^5}$$

$$\leftarrow 3.0 \times 10^{-6}$$

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$$+q = 3.0 \times 10^{-7} \text{ C} \quad q = E = \frac{F}{q} \Rightarrow F = E \cdot q \quad (5)$$

$$\downarrow E = 27 \text{ N/C}$$

$$F = ?$$

$$27 \times 3.0 \times 10^{-7} = 8.1 \times 10^{-6}$$

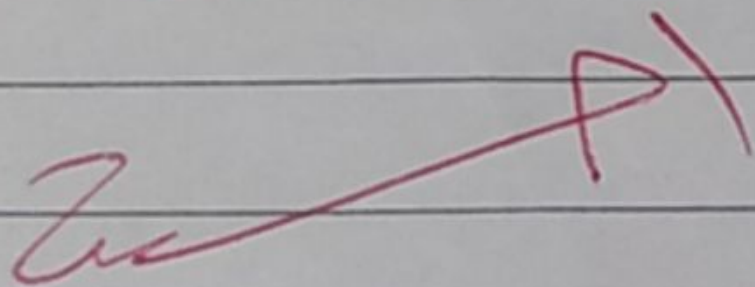
$$-q' = -5.0 \times 10^{-6} \text{ C}$$

$$E = \frac{F}{q} = \frac{0.080}{5.0 \times 10^{-6}} \quad (6)$$

$$F = 0.080 \text{ N to } q$$

$$E = ?$$

$$= 16 \times 10^3 \text{ N/C to } q$$

True 

7×10
 2020
 $25A$

$$r = 1.2 \text{ m}$$

$$E = \frac{kq}{r^2} = \frac{9.0 \times 10^9 \times 4.2 \times 10^{-6}}{(1.2)^2} \quad (8)$$

$$q = 4.2 \times 10^{-6} \text{ C}$$

$$E = ?$$

$$= 26250 \text{ N/C}$$

$$k = 9.0 \times 10^9$$

$$r = 2(1.2) = 2.4 \text{ m}$$

$$E = \frac{kq}{r^2} = \frac{9.0 \times 10^9 \times 4.2 \times 10^{-6}}{(2.4)^2} \quad (9)$$

$$q = 4.2 \times 10^{-6} \text{ C}$$

$$E = ?$$

$$= 6562.5 \text{ N/C}$$

$$k = 9.0 \times 10^9$$

$$r = 1.6 \text{ m}$$

$$E = \frac{kq}{r^2} = \frac{9.0 \times 10^9 \times 7.2 \times 10^{-6}}{(1.6)^2} \quad (10)$$

$$q = 7.2 \times 10^{-6} \text{ C}$$

$$E = ?$$

$$= 25312.5 \text{ N/C}$$

$$k = 9.0 \times 10^9$$

$$r = 0.25 \text{ m}$$

$$r^2 \cdot E = \frac{kq}{r^2} \Rightarrow \frac{r^2 \cdot E}{k} = \frac{kq}{k} \quad (11)$$

$$E = 450 \text{ N/C}$$

$$q = ?$$

$$q = \frac{r^2 \cdot E}{k} = \frac{(0.25)^2 \cdot 450}{9.0 \times 10^9} = 3.125 \times 10^{-9}$$

$$k = 9.0 \times 10^9$$

کولوم

$$+q = 2.4 \times 10^{-6} \text{ C} \quad r^2 \cdot E = \frac{kq}{r^2} \Rightarrow r^2 \cdot \frac{E}{k} = \frac{kq}{E} \quad (12)$$

$$E = 360 \text{ N/C}$$

$$r = ?$$

$$\sqrt{r^2} = \sqrt{\frac{kq}{E}} \Rightarrow r = \sqrt{\frac{kq}{E}}$$

$$k = 9.0 \times 10^9$$

$$= \sqrt{\frac{9.0 \times 10^9 \times 2.4 \times 10^{-6}}{360}} = \sqrt{60}$$

$$= 7.746 \text{ m}$$

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

$$E = \frac{kq}{r^2} = \frac{9.0 \times 10^9 \times 3.0 \times 10^{-6}}{(6)^2} \quad (14)$$

$$r = 6.0 \text{ m}$$

$$k = 9.0 \times 10^9$$

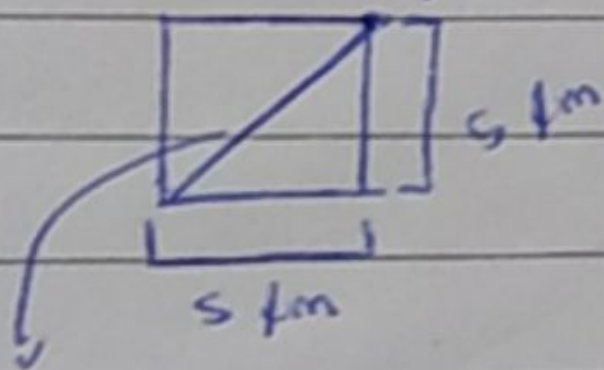
$$= 750 \text{ N/C}$$

$$E = ?$$

$$q = 5.0 \times 10^{-6} \text{ C}$$

$$k = 9.0 \times 10^9$$

(15)



$$E = \frac{kq}{r^2} = \frac{9.0 \times 10^9 \times 5 \times 10^{-6}}{(\sqrt{50})^2}$$

$$= 900 \text{ N/C}$$

$$r = \sqrt{s^2 + s^2} = \sqrt{50} \text{ m}$$