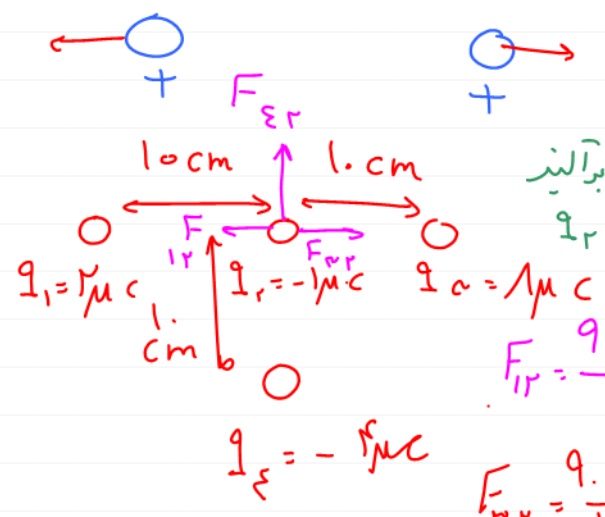




نیروی برآیند
وارد شود

$$9 \times 10^9$$

فاصله کولن:

$$F = \frac{k |q_1| |q_2|}{r^2}$$

$r \rightarrow m$

$$F_{12} = \frac{9 \times 2 \times 1}{100} = 1.8 N (-i)$$

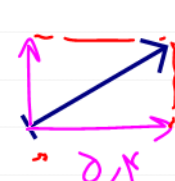
$$F_{23} = \frac{9 \times 1 \times 1}{100} = 0.09 N (+i)$$

$$F_{13} = \frac{9 \times 1 \times 2}{100} = 0.18 N (+j)$$

$$F = -1.8i + 0.09i + 0.18j$$

$$F = 0.09i + 0.18j$$

بدار نیرو



$$F = \sqrt{0.09^2 + 0.18^2}$$

$$F = 0.18 \sqrt{1^2 + 2^2} = 0.18 \sqrt{5}$$

اندازه نیرو

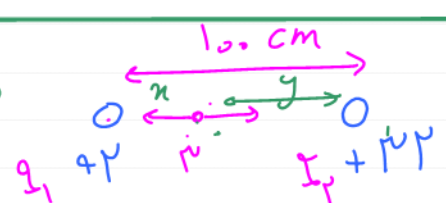
$$\sqrt{0.09 \times 0.09 + 0.18 \times 0.18}$$

$$\sqrt{0.15^2 (9 + 4)} = 0.18 \sqrt{13}$$

۳, ۲	۵
۱۲, ۵	۱۳

۱۶

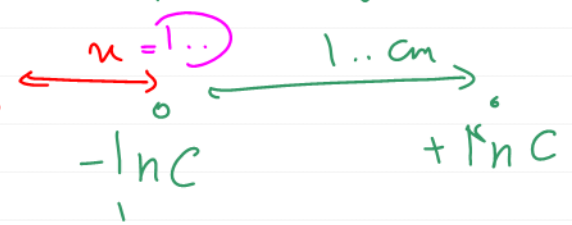
$$\frac{Q_1}{n^2} = \frac{Q_2}{y^2} \Rightarrow \frac{x}{n^2} = \frac{1-x}{(1-n)^2} \Rightarrow \frac{1}{n} = \frac{x}{1-n} \Rightarrow xn = 1-n \Rightarrow n = \frac{1}{1+x}$$



$$\frac{k q_1 q_2}{n^2} = \frac{k Q_1 Q_2}{y^2} \Rightarrow \frac{1}{n^2} = \frac{1}{y^2}$$

$$\frac{Q_1}{n^2} = \frac{Q_2}{y^2}$$

$$\frac{1}{n^2} = \frac{x}{(1+x)^2} \Rightarrow \frac{1}{n} = \frac{x}{1+x}$$



$$\Rightarrow xn = 1-n \Rightarrow n = \frac{1}{1+x}$$













