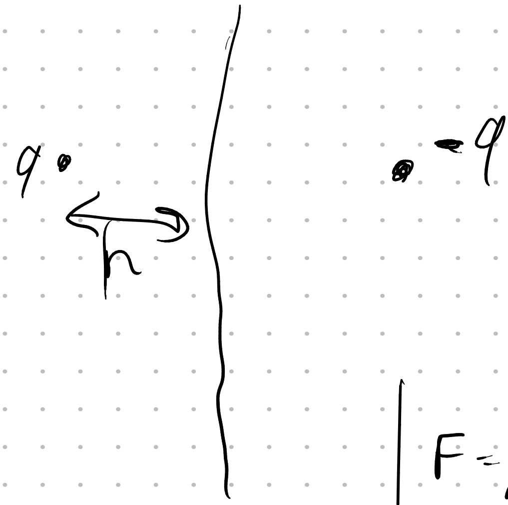


$$F = \frac{kq^2}{4h^2}$$

$$F = qVB = ma \Rightarrow a = \frac{qVB}{m}$$

$$a = \frac{V^2}{R} \Rightarrow$$

$$T = \frac{2\pi R}{V}$$

$$\Rightarrow \frac{V^{\cancel{2}}}{R} = \frac{q\cancel{V}B}{m} \qquad \frac{R}{V} = \frac{m}{qB}$$

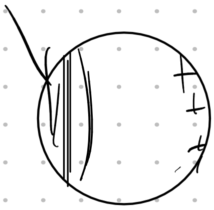
$$\oint = 4\pi Q$$

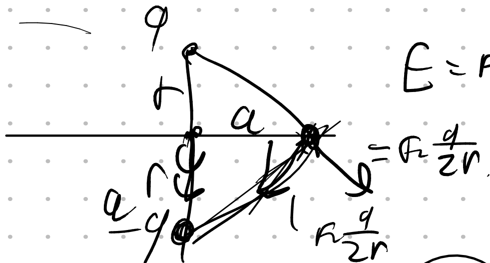
$k = \frac{1}{4\pi\varepsilon_0\varepsilon}$

$\boxed{C = \frac{\varepsilon\varepsilon_0 S}{d}}$ $\Rightarrow q \to \varepsilon q$

$-q \to \varepsilon q$

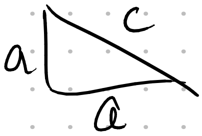
$k\frac{q_1 q_2}{r^2} \Rightarrow \frac{k}{\varepsilon}\frac{\varepsilon^2 q^2}{r^2}$





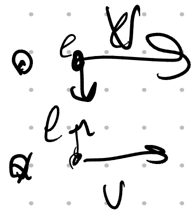
$E = k\frac{q}{r}$

$\frac{a}{\sqrt{2}} \cdot 2 = \boxed{\sqrt{2}a} = c$



$r \quad k\frac{q}{r}\sqrt{\frac{1}{4}+\frac{1}{4}} = \frac{kq}{r2\sqrt{2}}$

$$B = \frac{\mu}{4\pi}\frac{q[v\times r]}{r^3}$$

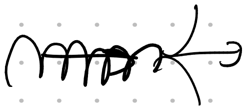


$$F = q[v\times B] = qvB =$$

$$= qv\frac{\mu}{4\pi}\frac{qv}{r^2} = \frac{q^2 v^2 \mu}{4\pi r^2}$$

$$\frac{q^2}{r^2}$$

$$\frac{v^2\mu}{4\pi} \; ? \; q_2 \quad 10^{-20}$$



$$\frac{d}{v}\; v$$

$$R_M \frac{RI}{d^2} = u_M = \frac{VB}{d^2} = u_M$$

$$0{,}0001$$

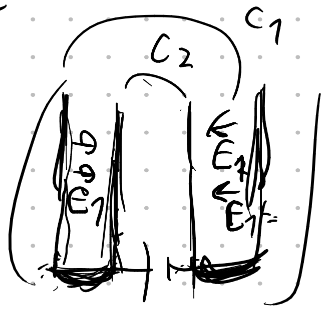
$$\mathcal{E} = V_x B_z$$

$$10^{-6} \quad 1$$

$$u_H = \frac{RIB}{b} \; 0{,}01$$

$$10^{-8} = RI$$

$$dI$$

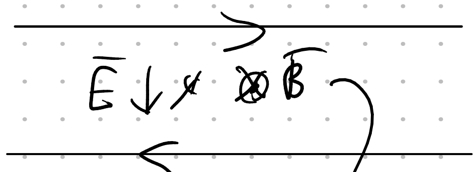


$$F = qVB$$

$$L = \frac{\mu N^2 A}{l}$$

$$\boxed{-\frac{d\varphi}{dt} = \mathcal{E}}$$

$$\varphi = B\cancel{S}$$



φ_1

V

φ_2

$$\frac{\bar{r}}{r^5} + \frac{1}{r^3}$$

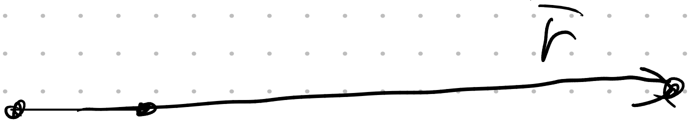
$$\frac{r\bar{r}}{r^5} + \frac{1}{r^3}$$

$$\bar{S}$$

$$\frac{\bar{r}}{|r|}$$

eg. bent

$$B(r) = \frac{\mu_0}{4\pi}\left(\frac{3(m\cdot\hat{r})\hat{r} - m}{r^3}\right) = \frac{\mu_0}{4\pi}\left(\frac{3(\bar{m}\cdot\bar{r})\bar{r}}{r^5} - \frac{m}{r^3}\right)$$

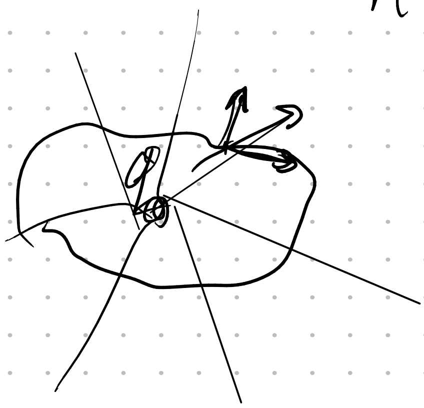


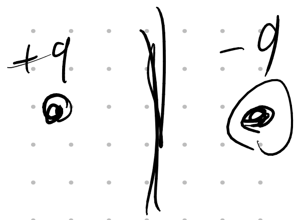
$$\hat{r} = \frac{\bar{r}}{|r|}$$

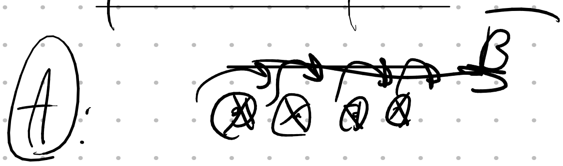
$\bar{D} = \varepsilon_0 \bar{E} + \bar{P}$

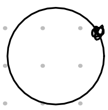
$\bar{E}$

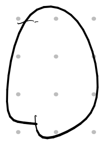
$\frac{n+0}{2} = \frac{n}{2}$











$\left(\bar{\nabla}\,\bar{a}\right) = \frac{da}{dx}\cdot\bar{i}$