



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

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

$$a = \frac{v^2}{R}$$

$$r = \frac{2mR}{qB}$$

$$\Rightarrow \frac{v^2}{R} = \frac{qvB}{m}$$

$$\frac{R}{v} = \frac{m}{qB}$$

$$Q = 4\pi Q$$

$$C = \frac{q_{\text{gas}}}{d} \Rightarrow \begin{matrix} q \rightarrow \varepsilon q \\ -q \rightarrow -\varepsilon q \end{matrix}$$

A hand-drawn diagram of a cell. On the left, there are four small circles, each containing a dot, arranged in a 2x2 grid. To the right of these is a large, irregular oval shape representing the cell. Inside this large oval is a smaller, vertically oriented oval representing the nucleus. Inside the nucleus is a small dot representing the nucleolus. A horizontal arrow points from the nucleolus towards the right edge of the cell. Another arrow points from the top right towards the cell. A third arrow points from the bottom left towards the cell.

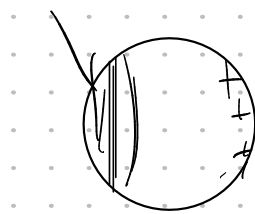
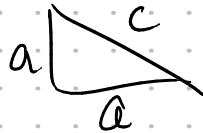
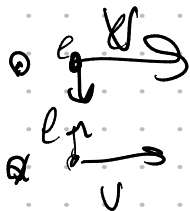


Diagram illustrating the geometry of the problem. A right-angled triangle is shown with vertices at the origin (0,0), (a,0), and (0,a). The hypotenuse is labeled 'a'. A point on the hypotenuse is labeled 'r' and 'R \frac{q}{2r}'. The distance from the origin to this point is labeled 'r' and 'R \frac{q}{r} \sqrt{\frac{1}{2} + \frac{1}{2}}'. The distance from the point on the hypotenuse to the origin is labeled 'R \frac{q}{2r}'.

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



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



$$F = q[V \times B] = qVB = -qV \frac{\mu}{4\pi} \frac{qV}{r^2} = -\frac{q^2 V^2 \mu}{4\pi r^2}$$

$$E = V \times B_z$$

10^{-6} (RIB) $10^{-8} = RI$

$$F = qVB$$

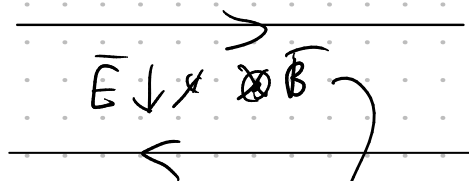
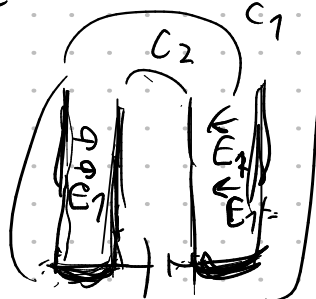
$$L = \frac{\mu N^2 A}{l}$$

$$\frac{d\Phi}{dt} = \mathcal{E}$$

$$\Phi = BS$$

$$R_M \frac{d}{dt} = u_M = \frac{V}{dt} = u_M$$

$0,0001$



$$\Phi_1$$

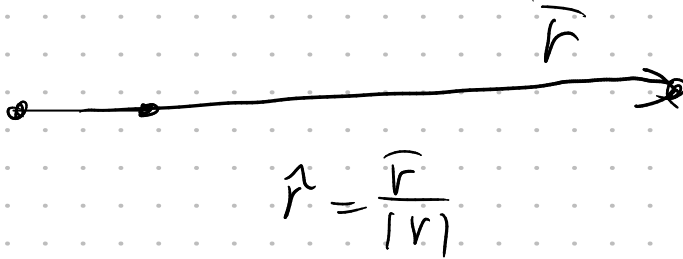
$$V$$


$$\Phi_2$$

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

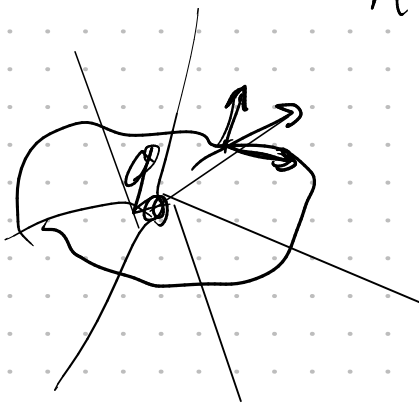
Eg. Bent:

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

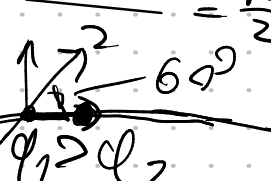


$$\vec{D} = \epsilon_0 \vec{E} + \vec{P}$$


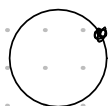
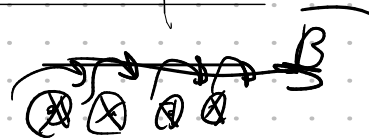
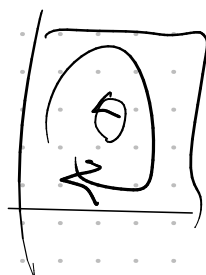
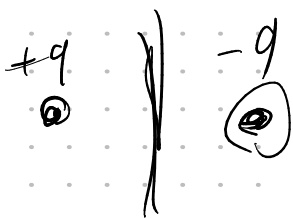
$$\frac{\rho}{n}$$



\vec{E}

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


$q_1 > q_2$



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