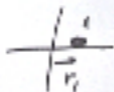
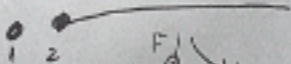


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$$\vec{F}_p = \frac{k g_i}{|\vec{r}_p - \vec{r}_i|^2} \hat{r}_{ip}$$

$$\vec{F}_p = g_p \hat{\sigma}_p$$



$$W = \sum_{\delta \vec{r}_p} \vec{L}_p \cdot \vec{r}_p$$

$$W_{ip} = \frac{k g_i g_p}{|\vec{r}_{ip}|}$$

$$E = \frac{F}{q} \quad V = \frac{W}{q} \quad | \quad [V] = \frac{W}{q}$$

$$A \longleftrightarrow B \quad \Delta V = V_B - V_A$$

$$q = (r_i)$$

at point P: $V_p = \frac{kq}{|r_i|}$ $V \longleftarrow \infty$

$$U$$

$$\Delta U$$

↓
w/o

$$V$$

$$\Delta V$$

↓
w/s

$$Vq = U$$

$$\begin{array}{c} 3 \\ \text{O} \\ \text{(01)} \end{array} \quad \begin{array}{c} 4 \\ \text{O} \\ \text{(11)} \end{array} \left| \begin{array}{l} W = W_1 + W_2 + W_3 + W_4 \\ \\ \\ \end{array} \right.$$

$$\begin{array}{c} 1 \\ \text{O} \\ 0,1 \end{array} \quad \begin{array}{c} 2 \\ \text{O} \\ 1,0 \end{array}$$

9, 0 at 0 charge (W_1)

$$\begin{array}{c} 1 \\ \text{O} \\ 1 \end{array} \quad \begin{array}{c} 2 \\ \text{O} \\ 2 \end{array} \quad W = V_{at2} \rho_2 \quad (W_2)$$

from 1

$$\begin{array}{c} 3 \\ \text{O} \\ 1 \end{array} \quad \begin{array}{c} 2 \\ \text{O} \\ 2 \end{array} \quad W = V_{at3} \rho_3 + V_{at3} \rho_3$$

from 1 from 2

(W_2)

$$\begin{array}{c} 0 \\ \text{O} \\ 0 \end{array} \quad \begin{array}{c} 4 \\ \text{O} \\ 0 \end{array} \quad W = V_{at4} \rho_4 + V_{at4} \rho_4 + V_{at4} \rho_4$$

from 1 from 2 from 3

(W_4)



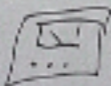
$$\vec{F} = \frac{\rho \vec{v}}{s}$$

ρ is density, \vec{v} is velocity, s is area.

$$W = \int (\vec{F} \cdot d\vec{L})$$

$$V \quad dV \quad \frac{dV}{s} \rightarrow \text{mass}$$

$$\Delta V_{AB} = V_B - V_A$$



+10



$$W = g_p V_p$$

$$J \quad C \quad V$$

$$1V = \frac{1J}{1C}$$

$$E = -\frac{dV}{dx}$$

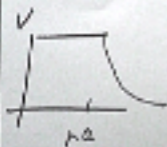
$$[E] = \frac{J}{m}$$

$$V = [E] m$$

$$v = \frac{J}{C} m$$



$$V = \frac{kQ}{r}$$



$$V_{\text{max}} = \frac{kQ}{a}$$

Equipotential
= conductor

$$C = \frac{Q}{V}$$

$$C [1F] = \frac{1C}{V}$$

$$Q = CV$$

$$\frac{1}{2} CV^2 = U_E$$