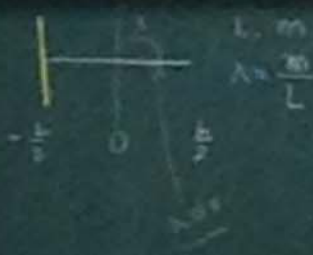


$$\frac{dJ(x)}{dx} \equiv \lim_{\Delta x \rightarrow 0} \frac{f(x+\Delta x) - f(x)}{\Delta x} = \lim_{\Delta x \rightarrow 0} \frac{(x+\Delta x)^n - x^n}{\Delta x}$$

$$= \lim_{\Delta x \rightarrow 0} \frac{x^n + nx^{n-1}\Delta x + \dots - x^n}{\Delta x}$$

$$= \underline{nx^{n-1}}$$

$$\frac{1}{3} mL^3 = \frac{1}{8} mL^3 + m \left(\frac{L}{2}\right)^2$$



$$\sum_{i=1}^n m_i (x_i^2 + y_i^2)$$

$$I = \int_0^L$$

