

Ex 1 $\underbrace{(2x - 3y^2)}_M dx - \underbrace{6xy}_N dy = 0 \quad \text{Eq 2}$

$$M_y = N_x ?$$

$$\left. \begin{array}{l} M_y = -6y \\ N_x = -6y \end{array} \right\} = \Rightarrow \text{is exact dif.}$$

$$2x dx - \underline{3y^2 dx - 6xy dy} = 0$$

$$2x dx - 3(y^2 dx + 2xy dy)$$

$$\int 2x dx - 3 \int d(xy^2) = \int 0$$

$$\boxed{x^2 - 3xy^2 = C}$$