

系級：_____ 學號：_____ 姓名：_____

試以全微分法求解下述各題

1. (1) $(x - y^3)dy = ydx$ (2) $1 + x^2y^2 + y + xy' = 0$

2. (1) $(e^x \sin y + 3y)dx + (3x + e^x \cos y)dy = 0$
(2) $(1 + \cos \theta)dr = r \sin \theta d\theta$

3. (1) $2xydx + (1 + x^2)dy = 0$
(2) $y(1 - xy + x^2y^2)dx + x(x^2y^2 - xy)dy = 0$

4. (1) $(2y + e^y + 6x^2)\frac{dy}{dx} + 4 + 12xy = 0$
(2) $\frac{dy}{dx} = \frac{-xy^2 - y}{x}$