

Determine whether the function  $f(z) = 2x - x^3 - xy^2 + i(x^2 + y^3 - 2y)$  is analytic. 97 中央機械能源光  
機電生醫 6]

$$[\text{解}] u = 2x - x^3 - xy^2, v = x^2 + y^3 - 2y$$

$$u_x = 2 - 3x^2 - y^2, v_y = 2x + 3y^2 - 2$$

$$u_x \neq v_y \Rightarrow f(z) \text{ 不為解析}$$



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