

學號：

姓名：

國立中山大學 97 學年度第 2 學期資訊工程學系資工數學

Quiz #3

2009/03/18

Test for exactness. If exact, solve. Also, if an initial conditional is given, determine the corresponding particular solution.

1.  $\cos(x + y)dx + (3y^2 + 2y + \cos(x + y))dy = 0$  (25%)

2.  $e^{2x}(2\cos ydx - \sin ydy) = 0, y(0) = 0$  (25%)

(背面尚有試題)

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3.  $(2x + \frac{1}{y} - \frac{y}{x^2})dx + (2y + \frac{1}{x} - \frac{x}{y^2})dy = 0$  (25%)

4.  $-2xy \sin(x^2)dx + \cos(x^2)dy = 0$  (25%)