Time: 20 minutes   Name: _____

Instructor: Dr. Edward Doolittle   Student #: _____

(marks)   Please do questions 1 and 2. You have 10 minutes to do each question, for a total of 20 minutes for the quiz. A non-programmable calculator of the type mentioned in the course outline is allowed.

(10)   1. Find y' by implicit differentiation for the implicitly defined function

$$y^4 + x^2 y^5 = 8 + 3x^2 y^2$$

(10)   2. The cost function for the production of a commodity is $C(x) = 339 + 25x - 0.09x^2 + 0.0004x^3$.
              Find and interpret $C'(100)$. How much does $C'(100)$ differ from the cost of producing item
              number 101 after 100 have been produced?