

MATH 2200- DIFFERENTIAL CALCULUS, Fall 2005

QUIZ 4 11/2/05

Name: SOLUTIONS

1. Find  $y'$  by implicit differentiation.

$$3y - 2\sqrt{xy^3} = 1 - x$$

$$3y' - 2 \frac{1}{2} (xy^3)^{-\frac{1}{2}} (y^3 + x 3y^2 y') = -1$$

$$y' (3 - (xy^3)^{-\frac{1}{2}} x 3y^2) = (xy^3)^{-\frac{1}{2}} y^3 - 1$$

$$y' = \frac{y^3 (xy^3)^{-\frac{1}{2}}}{3 - 3xy^2 (xy^3)^{-\frac{1}{2}}}$$