

Math 150A, Fall 2007, Section 11
Quiz 6

Name:

Show your work. No work, no credit.

1. Assume that x and y are differentiable functions of t and that they satisfy $x^3y^2 = 432$.
Find $\frac{dx}{dt}$ when $x = 3$, $y = 4$, and $\frac{dy}{dt} = 2$.

2. Find the first and second derivative of the function $f(x) = \sqrt[5]{(x^2 + 3)^2}$.

3. Find the value of c which makes the following curves orthogonal at $(1, 1)$:

$$(C_1) \quad x^2 + 3y^2 = 4,$$

$$(C_2) \quad cy^2 - x^2 = -2/3.$$

Pledged

Honor code: I have neither given nor received help on this quiz.