Quiz 7

Spring 2013   **Your name:**

Math 0220   **Your TA's name:**

No calculators, no notes, no books. Show all your work (no work = no credit). Write neatly. Simplify your answers.

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1. (a) [3 points] Evaluate the integral by interpreting it in terms of areas

$$I = \int_{-1}^{1} \left(|x| + \sqrt{1 - x^2} \right) dx$$

(b) [3 points] Evaluate the integral

$$I = \int\limits_{1}^{e} \frac{4(\ln x)^3}{x}\, dx$$

2. [4 points] Evaluate the integral

$$I = \int_0^\pi t \cos 3t \, dt$$

bonus problem [5 points extra] Find the area of the region enclosed by the graph of the

function $f(x) = \dfrac{\sin 2x}{\sin x}$ and the x-axis when x is between $\dfrac{\pi}{6}$ and $\dfrac{5\pi}{6}$.