Quiz #9

Math 1100-05, Fall 2005

(10 points) **Problem.** Find the indefinite integrals:

(a) $\int 3xe^{x^2+1}\,dx =$ $\frac{3}{2}\int 2xe^{x^2+1}dx = \frac{3}{2}e^{x^2+1}+C$

(b) $\int \frac{2}{1-4x}\,dx = \frac{2}{-4}\int \frac{-4}{1-4x}dx = -\frac{1}{2}\ln|1-4x|+C$

(c) $\int \frac{x+2}{x-2}\,dx = \int \frac{x-2+4}{x-2}dx = \int 1+\frac{4}{x-2}dx =$

$= x+4\ln|x-2|+C$

(d) $\int \frac{3}{1+e^{-3x}}\,dx =.$ $\int \frac{e^{3x}}{e^{3x}}\cdot\frac{3}{1+e^{-3x}}dx = \int \frac{3e^{3x}}{1+e^{3x}}dx$

$= \ln(1+e^{3x})+C$