Math 31B Quiz 4B.

November 3, 2005

Please enter your last name, first name and student ID on the test card provided to you. Please make sure that you start at the leftmost bubble for each field that you fill in.

You are taking quiz 4B. Please fill in your answers in **bubbles 11-14** on the test card. Putting any marks in any other bubble will result in an automatic zero for the entire quiz. Please call for help if you have questions!

1. Evaluate $\int_5^6 \frac{1}{\sqrt{x^2-9}}dx$ Use $u = 3\sec\theta$

(a) $\ln|2+\sqrt{3}| - \ln|3|$
(b) $\ln|3+\sqrt{15}| - \ln|4+2\sqrt{2}|$
(c) $\ln|4+\sqrt{15}| - \ln|3+2\sqrt{2}|$
(d) $\ln|3+\sqrt{3}| - \ln|3|$ (e) None of the above

(a) Evaluate $\int_0^1 \frac{6x-14}{x^2-5x+6}dx$

(a) $\ln 2 - 3\ln 3$
(b) $4\ln 3 - \ln 2$
(c) $2\ln 2 - 4\ln 3$
(d) $-\ln 2 - 3\ln 3$
(e) None of the above

(b) Evaluate $\int_0^\infty e^{-3x}dx$

(a) $\pi/2$ (b) 0 (c) $1/3$
(d) $1/4$ (e) None of the above

(c) Find the length of the curve $y = \ln(\cos x); 0 \le x \le \frac{\pi}{4}$.

(a) $\pi/2$ (b) $\ln(1+\sqrt{2})$ (c) $10,000$
(d) $\sqrt{2}-1$
(e) None of the above