Math 151 Name: _____

QUIZ 1 (CHAPTER 9)

MATH 151 – SPRING 2004 – KUNIYUKI
105 POINTS TOTAL, BUT 100 POINTS = 100%

Show all work, simplify as appropriate, and use "good form and procedure" (as in class).
Box in your final answers!
No notes or books allowed. A scientific calculator is allowed.

USE THE BACK OF THIS TEST IF YOU RUN OUT OF ROOM.

For 1) through 8), evaluate the integrals.

1) $\int e^{2x} \sin\left(3x\right) dx$ (14 points)

2) $\int \cot^6 x \csc^4 x \, dx$ (10 points)

3) $\int \sin^2 x \, dx$ (6 points)

4) $\int \sin^{-1} x \, dx$ (8 points)

5) $\int \frac{4x-3}{x^2-10x+25} \, dx$ (14 points)

YOU MAY CONTINUE ON THE BACK.

#5 cont.)

6) $\int \frac{\sqrt{9+x^2}}{x^4}\,dx$ (20 points)

Use a trig substitution.

YOU MAY CONTINUE ON THE BACK.

#6 cont.)

7) $\int \frac{\ln x}{x\left(\ln x - 5\right)}\, dx$ (8 points)

8) $\int \frac{x}{\sqrt{16x - x^2}}\, dx$ (20 points)

YOU MAY CONTINUE ON THE BACK.

#8 cont.)

YOU MAY CONTINUE ON THE NEXT PAGE.

#8 cont.)

9) We want to integrate $\int \frac{1}{(x+9)^2(x^2+9)^2}\,dx$ using partial fractions.

Write the <u>form</u> of the partial fraction decomposition for the integrand, $\frac{1}{(x+9)^2(x^2+9)^2}$. You do <u>not</u> have to work out the integral. (5 points)