NAME _____ Rec. Instr._____

Signature _____ Rec. Time_____

CALCULUS 2
EXAM II
October 20, 1998

Show all work for full credit. No calculators, books or notes are allowed. The point value of each problem is given in the margin.

problem	1	2	3	4	5	6	7	total
points								
points possible	12	14	14	14	18	14	14	100

This exam consists of seven integration problems. In order to maximize your score (and to allow us to assign partial credit) you must

SHOW YOUR WORK CLEARLY.

(12) 1. $\int \cos^2(2x)dx$

(14) 2. $\int \cos^4 x\, dx$ (Your answer in problem 1 should be helpful in solving this problem.)

(14) 3. $\int xe^{-2x}dx$

(14) 4. $\int_0^\infty e^{-3x}dx$

(9) 5(a) Decompose $\dfrac{1}{x^2(x^2+1)}$ as a sum of "simpler" terms, by the method of partial fractions.

(9) (b) Find $\displaystyle\int \frac{dx}{x^2(x^2+1)}$

(14) 6. $\displaystyle\int \frac{\sqrt{x^2-4}}{x}\,dx, \qquad (x>1)$

(14) 7. $\displaystyle\int \frac{dx}{\sqrt{x^2 - 4x}}$