Math 126
Fall 1997
Test 2
Oct. 28, 1997

- This test runs for one hour.
- All work is to be your own.
- Calculators are not to be used.

Name: _____

Grading on this examination.
READ CAREFULLY BEFORE BEGINNING.

The two multiple choice questions are either correct or wrong. Please write the letter of the correct answer in the box provided. The remaining questions will require you to demonstrate knowledge of a correct procedure for arriving at the answer. Please circle the answer you want us to consider. The correct answer is not enough for full credit, you must indicate how you arrived at it. Be particularly careful to be sure that you have dealt with improper integrals. Indicate any substitutions you use or any Integration by Parts that you employ. Please mark out any work on a problem that you do not want us to consider.

Please write your name and your Lab. section # at the top of the next sheet. Write your name at the top of each subsequent sheet. If the name of your Professor is not the name at the top of the next page, raise your hand.

Your Section # choices are:

#	Room		Time	Instructor
01	184	Nieuwland	11:00 - 11:50	Jager
02	129	DeBartolo	12:55 - 1:45	Jager
03	184	Nieuwland	3:55 - 4:45	Vassiliev
04	140	DeBartolo	2:00 - 2:50	Jager
05	205	Cushing	2:00 - 2:50	Vassiliev
06	318	DeBartolo	9:30 - 10:20	Vassiliev

Score:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Total: _____

1. (5pt) $\int_0^1 2xe^{x^2}\,dx = ?$

(a) 0 $\qquad$ (b) 1 $\qquad$ (c) e $\qquad$ (d) $e-1$ $\qquad$ (e) e^2

2. (5pt) $\int_0^4 \dfrac{dx}{(4-x)^{\frac{3}{2}}} = ?$

(a) 1 $\qquad$ (b) 2 $\qquad$ (c) 3 $\qquad$ (d) 4 $\qquad$ (e) The integral diverges.

Name:_____

3. (15pt) Evaluate $\displaystyle \int_0^1 \frac{dx}{\sqrt{2x - x^2}}$.

4. (15pt) Evaluate $\displaystyle\int_0^1 (x+1)\ln(x+1)\,dx.$

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5. (15pt) Evaluate $\displaystyle \int \frac{dx}{x^2\sqrt{x^2-1}}$.

Name:_____

6. (15pt) Evaluate $\displaystyle \int \frac{2dx}{(x-1)^2(x^2+1)}$.

Name:_____

7. (15pt) Solve the initial value problem: $(1 + x)y' + y = 1$; $y(0) = 0$.

8a. (9pt) Is the integral $\displaystyle\int \frac{dx}{e^x}$ convergent or divergent? If it is convergent, evaluate it.

8b. (6pt) Is the integral $\displaystyle\int \frac{dx}{1 + e^x}$ convergent or divergent? Do not evaluate the integral.