CALCULUS II - 3450:222
TEST #2 FALL 05   ROW # _____

NAME _____   100 Points

Show all your work.

1. (8 pts) Evaluate $\displaystyle\int \ln(x)\, dx$

8 Points

2. (9 pts) Evaluate $\displaystyle\int \cos^5(x) \sin^3(x)\, dx$

9 Points

3. (8 pts) Use the Trapezoidal Rule to approximate to 5 decimal places $\displaystyle\int_1^2 e^{1/x}\, dx$ with $n = 4$.

8 Points

4. (15 pts) Evaluate $\displaystyle\int \frac{x + 2}{x^4 + x^2}\ dx$

15 Points

5. (15 pts) Evaluate $\displaystyle\int \sqrt{3 - 2x - x^2}\ dx$

15 Points

6. (11 pts) Evaluate $\displaystyle\int \sec^4(x)\sqrt{\tan(x)}\, dx$

11 Points

7. (15 pts) Evaluate $\displaystyle\int e^x\cos(x)\, dx$

15 Points

8. Determine whether the following integrals are convergent or divergent. Evaluate those that are convergent.

a. (10 pts) $\displaystyle\int_0^\infty \frac{1}{x^2 + 5x + 4}\,dx$

b. (9 pts) $\displaystyle\int_{-4}^{12} \frac{1}{(x-4)^{1/3}}\,dx$