TEST 2

Math 152 - Calculus II   **Score:** _____ out of 100

3/1/2013   **Name:** _____

Read all of the following information before starting the exam:

- You have 50 minutes to complete the exam.

- Show all work, clearly and in order, if you want to get full credit. Please make sure you read the directions for each problem. I reserve the right to take off points if I cannot see how you arrived at your answer (even if your final answer is correct).

- Please box/circle or otherwise indicate your final answers.

- Please keep your written answers brief; be clear and to the point. I will take points off for rambling and for incorrect or irrelevant statements.

- This test has 8 problems and is worth 100 points. It is your responsibility to make sure that you have all of the pages!

- Good luck!

1. Evaluate $\int x^2 e^{-x} dx$.

2. Evaluate $\int x \sec(x) \tan(x) dx$.

3. Evaluate $\int \cos^5(7x) \sin^4(7x) dx$.

4. Evaluate $\int \dfrac{x^2}{\sqrt{16 - x^2}}\,dx.$

5. Evaluate $\int \dfrac{2x - 41}{x^2 + x - 12}\,dx.$

6. Evaluate $\int \sec^4(3x)\tan^2(3x)dx$.

7. Use polynomial long division to evaluate $\int \dfrac{x^4 - 5}{x + 1}dx$.

8. Write out the FORM of the partial fraction decomposition for the following (DO NOT find the numerical values for the unknown coefficients).

(a) $\dfrac{4x^3 - 1}{x^2(x - 4)^2(x + 3)} =$

(b) $\dfrac{x + 10}{x^3 + 5x^2 + 6x} =$

(c) $\dfrac{2x^3 + 4x - 15}{x(x - 1)(x^2 - 1)^2} =$