

# TEST 2

Math 152 - Calculus II

Score: \_\_\_\_\_ out of 100

10/11/2013

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 

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 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  $\int x \sin(5x) dx$ .

2. Evaluate  $\int \tan^{-1}(x) dx$ .

3. Evaluate  $\int \cos^2(3x) \sin^7(3x) dx$ .

4. Evaluate  $\int \frac{1}{x^2\sqrt{x^2+25}}dx$ .

5. Evaluate  $\int \frac{4x-1}{x^2+3x-10}dx$ .

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

7. Use polynomial long division to evaluate  $\int \frac{x^4 + 8}{x - 3} dx$ .

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

(a)  $\frac{x^2 - 3x + 10}{x^3(x - 4)(x + 3)^2} =$

(b)  $\frac{2x - 20}{x^3 + x^2} =$

(c)  $\frac{2x^3 + 4x - 15}{(x - 2)(x^2 - 4)^2(x^2 + 9)^2} =$