

Math 142, Exam 1, Spring 2014

Write everything on the blank paper provided. **You should KEEP this piece of paper.** If possible: return the problems in order (use as much paper as necessary), use only one side of each piece of paper, and leave 1 square inch in the upper left hand corner for the staple. If you forget some of these requests, don't worry about it – I will still grade your exam.

The exam is worth 50 points. Each problem is worth 10 points. Your work must be coherent, complete, and correct. CIRCLE your answer. **CHECK** your answer whenever possible.

No Calculators or Cell phones.

1. Define the definite integral. Give a complete definition. Be sure to explain all of your notation. **Write in complete sentences.**
2. Find $\int \sin^5 x \cos^6 x dx$. **Check your answer.**
3. Find $\int \frac{dx}{\sqrt{12x-4x^2-8}}$. **Check your answer.**
4. Find $\int \frac{(x^2+3)dx}{(x+1)^3}$. **Check your answer.**
5. Find $\int e^{5x} \sin x dx$. **Check your answer.**