

\_\_\_\_\_ / 54 total points (both parts)

**Test #1 (Part 1, No Calculator)**

Name: \_\_\_\_\_

Math 181, Prof. Beydler

Wednesday, September 26, 2018

**Directions:** Show all work. No calculator, books, or notes. Your desk and lap must be clear (no phones, no smart watches, etc.). If you have a phone in your lap or on your chair, it is considered cheating, and you will receive a zero on this test. Write your answers in the indicated places, or box your answers. When you're finished with Part 1, please turn it in, take a bathroom break, get your calculator out, and start Part 2. Good luck!

1. (4 points) Find the following integral.

$$\int \sin^{-1} x \, dx$$

Answer: \_\_\_\_\_

2. (4 points) Find the following integral.

$$\int \sin^3 x \cos^4 x \, dx$$

Answer: \_\_\_\_\_

3. (6 points) Find the following integral.

$$\int \frac{dx}{\sqrt{x^2 + 4x + 8}}$$

Answer: \_\_\_\_\_

4. (6 points) Find the following integral.

$$\int \frac{x^3 + 4x^2 + 2x + 3}{x^4 + x^2} dx$$

Answer: \_\_\_\_\_

Here are a couple of formulas I promised to give you:

$$\int \sec x \, dx = \ln |\sec x + \tan x| + C$$

$$\int \csc x \, dx = -\ln |\csc x + \cot x| + C$$