Discussion Problems for Math 180

Thursday, April 23, 2015

Review

Take out a piece of paper, write your name at the top, and write down the following:

- The definitions of *continuous*, *derivative*, and *inverse function*.

- The basic identities concerning exponential and logarithmic functions.

- The basic rules we can use to compute derivatives.

Hand these in to me by the end of class. (One per person, not one per group.)

This time

Calculate:

1. $\displaystyle \int \sin^5(x)\cos(x)\,dx$

2. $\displaystyle \int \frac{2\,dx}{x+3}$

3. $\displaystyle \int 1 + x + x^2 + x^3\,dx$

4. $\displaystyle \int \frac{x+1}{x}\,dx$

5. $\displaystyle \int \frac{dx}{x^2+9}\,dx$

6. $\displaystyle \int_{-3}^{3} \ln(x^2+1)\sin(x) + 1\,dx$

7. $\displaystyle \int_{0}^{2\pi} \sin(x)^{17}\,dx$

8. $\displaystyle \frac{d}{ds} \int_{s}^{1-s} e^{e^x}\,dx$