Math 203: HW 8

Due on Tuesday, June 18

Summer '13

John "*Curlee*" **Robertson**

Problem 1

Evaluate the following indefinite integrals (remember, this means to find an antiderivative):

$$\int 3x^3 + 2x + \pi dx$$

$$\int \frac{1+\sqrt{x}}{\sqrt{x}} dx \quad \text{hint: do some algebra first}$$

$$\int 2\cos(2x)dx$$

Problem 2

Evaluate the following definite integrals:

$$\int_0^1 x^3 + 2dx$$

$$\int_{-2}^2 x^5 dx \quad \text{note: why are we expecting to get 0?}$$

Problem 3

Find the area between the given function and the x-axis on the given interval.

$$f(x) = x^2 - 1 \quad \text{on} \quad [0,3]$$

$$f(x) = \sin(x) \quad \text{on} \quad [0, 2\pi], \quad \text{hint: } \sin(x) \leq 0 \text{ on } [\pi, 2\pi]$$

Problem 4

Find the area between the given curves on the the interval $[-1, 1]$

$$f(x) = x^2 \quad g(x) = x$$

$$f(x) = x^3 \quad g(x) = x$$