

Circle One:

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

7:45-8:35 (361)

8:50-9:40 (362)

Math222-4, Spring 2007

Quiz #2: 02-06-07

No Calculators.

1. (5 Points)  $\int \frac{5x-2}{2x-x^2} dx$

2. (5 Points)  $\int \frac{x^4}{x^2-1} dx$

**3.** (5 Points)  $\int_0^{\pi/2} \sin^3(2x) dx$

**Bonus** (3 Points) Show that if  $\int_0^1 f(x)f''(x) dx = 0$  and  $f(0) = f'(1) = 0$ , then  $f(x) = 0$  for all  $x$  in  $[0, 1]$ . **Hint:** It suffices to show that  $f'(x) = 0$  for all  $x$  in  $[0, 1]$ . Use integration by parts.