Section 006 of Calculus Lab 2,
Quiz of February 25, 2003
11:00-11:15 a.m.

Name (clearly printed): _____

Student Identification Number: _____

For this quiz, you are to print the Input statement in **InputForm** (not **StandardForm**) for MATHEMATICA and the corresponding Output statement that MATHEMATICA gives in order to solve Problems 1 and 2 below.

As your first Input statement, write your Student Identification Number with a decimal point after it and set `id` equal to it. Thus, if your Student Identification Number were 123-45-6789, you would write and evaluate `id = 123456789.` as your first line of Input (with the decimal point). Then, your first Input and Output would look somewhat like

```
In[1]           id = 123456789.

Out[1]          id = 1.23456789 x 10^8
```

You may have fewer digits in the Output and it may look like `id =` 1.2345×10^8.

Problem 1. The graphs of the functions

$$f(x) = x^4 - 500 - \frac{id}{10^6} \quad \text{and} \quad g(x) = -x^4 + 500 + \frac{id}{10^6}$$

intersect in two points (in the real $x, y-$coordinate plane). Print a MATHEMATICA Input statement (in InputForm) as well as the corresponding OutPut statement for the purpose of finding the x-coordinates of the two points of intersection of $y = f(x)$ and $y = g(x)$.

Input:

Output:

Problem 2. Use the results of Problem 1 to print a MATHEMATICA Input statement (in InputForm) and the corresponding OutPut statement for the purpose of finding the area enclosed between the graphs of $y = f(x)$ and $y = g(x)$.

Input:

Output:

(End of Quiz)