

Section 004 of Calculus Lab 2,  
Quiz of February 28, 2003  
10:00-10:15 a.m.

Name (clearly printed): \_\_\_\_\_

Student Identification Number: \_\_\_\_\_

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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 x 10^8`.

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Problem 1. The graphs of the functions

$$f(x) = x^6 - 2000 - \frac{id}{10^5} \quad \text{and} \quad g(x) = -x^6 + 2000 + \frac{id}{10^5}$$

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:

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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:

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(End of Quiz)