

NAME: \_\_\_\_\_

**MATH 11009**

**HOMEWORK #1 (5 pts)**

**SPRING 2013**

SHOW ALL WORK FOR FULL CREDIT — PLEASE CIRCLE YOUR FINAL ANSWER

DUE: THURSDAY, JANUARY 24, 2013 AT THE BEGINNING OF CLASS

1. (1 pt) The profit from the production and sale of ipod players is given by the function

$$P(x) = 450x - 0.1x^2 - 2000,$$

where  $x$  is the number of units produced and sold. Find  $P(500)$  and explain what it means.

2. (0.5 pt each) Let  $f(x) = 9 - 5x - 4x^2$ .

(a) Find  $f(-2)$ .

(b) Find  $f(3)$ .

3. (1 pt each) Find the domain of each of the following functions.

(a)  $f(x) = \frac{3x - 2}{6x^2 + 7x - 20}$

(b)  $g(x) = \frac{\sqrt{8 - 3x}}{x + 9}$

4. (1 pt) Find the slope of the line passing through  $(-3, 5)$  and  $\left(\frac{1}{2}, -7\right)$ .