NAME: _____

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

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

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