Math 251: Pledged Set 4

Due: September 30, 2008

This is a pledged set. Therefore, no outside help from book, calculator, or other people.

1. Find the equation of the tangent line to

$$y = 9 - 2x^2$$

at the point (2,1).

2. Use the definition of the derivative to find $f'(2)$ for

$$y = x^3 - 2x.$$

3. A particle moves along a straight line with equation of motion

$$s = f(t) = 5 + 5t - t^2.$$

What is the velocity after 1 second?

4. Find the derivative of

$$f(x) = x^2 - x + 3$$

using the definition of the derivative.

5. If

$$g(x) = x^{2/3},$$

can $g'(x)$ be calculated? Explain.