

## Written Assignment 2

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Section: \_\_\_\_\_

Differentiate the following. Simplify your answer completely. Write your answer without negative exponents or rational exponents.

$$f(x) = (3x^4 + 5x - 2) \left( 2x^3 + \frac{5}{x^4} \right)$$

Find the slope of the line tangent to  $f(x) = \tan x$  at  $x = \frac{\pi}{4}$ .

Find  $\frac{dy}{dx}$  for the following.

$$x^2 + 3xy + y^2 = 15$$