Names: _____ _____ _____

Activity #4: Differentiation II **Calculus I**

1. Compute the derivative of the following function.

$$f(x) = (2x^2 + 3x + 3)^5$$

2. Compute the derivative of the following function.

$$f(x) = \sin(4x^2 + 3x + 3)$$

3. Compute the derivative of the following function.

$$f(x) = \frac{\cos(x)}{x^3 + 5x + 3}$$

4. Compute the derivative of the following function.

$$f(x) = \frac{(x^2 - 2x + 5)^2}{\sin(x)\cos(x)}$$

5. Compute the derivative of the following function.

$$f(x) = \sqrt[3]{x^3 + 6x - 5}$$

6. Compute the second derivative of the following function.

$$y(x) = \left(1 + \frac{7}{x}\right)^5$$

7. Find an equation for the line tangent to

$$f(x) = \sqrt{x^2 - 4x + 7}$$

at $x = -1$.