

Name: _____

Math 231 Quiz 3

1. (10 pts) Find the *first* and *second* derivatives of the function.

(a) $f(x) = x^2 - 2x + 2^{32}$

(b) $g(t) = \sqrt{t} - \frac{1}{t}$

2. (10 pts) Differentiate the function.

(a) $h(\theta) = 2 \sin \theta \cos \theta$

(b) $y = \frac{x}{x^2 + 1}$

Bonus. (2pts) Suppose $F(x) = f(x)g(x)h(x)$ and $f(0) = g(0) = h(0) = 1$, $f'(0) = 2$, $g'(0) = 3$, $h'(0) = 4$. Find $F'(0)$.