

Name: _____

Math 211 Quiz 4

Section: 302 303

Feb 15, 2012

1. Compute the derivative of the given function.

$$\text{a. } f(t) = \frac{2}{\sqrt{t}} \quad \text{b. } g(x) = x^2\left(\frac{x^2}{2} + x + 1\right) \quad \text{c. } h(u) = \frac{1-u}{1+u}$$

2. Use the *definition* of derivative to find the derivative of the given function.

$$\text{a. } f(x) = x + 1 \quad \text{b. } g(t) = t^3$$

3. Compute the second derivative of the given function.

a. $f(x) = ax^2 + bx + c$ b. $g(t) = \frac{1}{t}$

Bonus problem. Find numbers a , b , and c such that the graph of the function $f(x) = ax^2 + bx + c$ will have x -intercepts at $(0, 0)$ and $(5, 0)$, and a tangent with slope 1 when $x = 2$.