2.4/2.5 Handout

1. Let $f(t) = 13 - 7t$. Compute $f'(2)$ exactly using the limit definition of the derivative.

2. Let $f(x) = 3x^2 - 1$. Find $f'(-1)$ exactly using the limit definition of the derivative.

3. Let $g(t) = t^{99}$. Find $g'(t)$.

4. Let $g(t) = 13t^2 - 9t^4$. Compute $g'(-1)$.

5. Compute the derivative functions of f and g, where

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

and

$$g(t) = 1 - \frac{1}{\sqrt{t}} - \frac{3}{\sqrt[5]{t}}.$$