Math 106, Spring 2018

Homework #1 Extra
Due **Tuesday January 23rd** at the beginning of class.

Please write answers on a separate piece of paper than HW 1.

Compute each of the following derivatives. Do **not** simplify your derivatives.

1. $f'(x)$ where $f(x) = \dfrac{4}{x^3} - \dfrac{3}{4x} + \dfrac{4}{3\sqrt{x}} + \dfrac{4}{3}x$

2. $\dfrac{d}{dx}\sqrt{\sqrt{x} + \sqrt{\sqrt{x} + \sqrt{\sqrt{x} + 2014}}}$ (watch parentheses here)

3. $\dfrac{d}{dx}\left(x^2 + \dfrac{7}{3}\right)^3 \left(3x - \dfrac{9}{x^2}\right)^{\frac{5}{3}}$

4. $G'(x)$ where $G(x) = \dfrac{\sqrt{x^2 - \dfrac{7}{x^8}}}{x^9 + 2014}$