Quiz #5, 10/1
Math 156 (Calculus I), Fall 2024

Problem 1 is worth 4 points and Problem 2 is worth 6 points, for a total of 10 points. Remember to *show your work* on all problems!

1. Compute the following derivatives.

   (a) $\dfrac{d}{dx}(3x^4 - 2x^3 + 5x^2 - 2x + 3)$

   (b) $\dfrac{d}{dx}(\sqrt[3]{x})$

   (c) $\dfrac{d}{dx}(8e^x)$

   (d) $\dfrac{d}{dx}(\sin(x) + \cos(x))$

2. For each of the following functions $f(x)$, compute the *second derivative* $f''(x)$.

   (a) $f(x) = 3x^4 - 2x^3 + 5x^2 - 2x + 3$

   (b) $f(x) = \dfrac{1}{x}$

   (c) $f(x) = e^x + \sin(x) + \cos(x)$