

Quiz #6, 10/11
Math 156 (Calculus I), Fall 2023

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

1. Compute the following derivatives.

(a) $\frac{d}{dx} \left(e^{x^2+2x} \right)$

(b) $\frac{d}{dx} \left(\frac{\cos(x)}{x} \right)$

(c) $\frac{d}{dx} (\sin^2(3x))$ [recall the notation that $\sin^2(\theta) = (\sin(\theta))^2$]

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

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

(b) $f(x) = \ln(x)$