

Quiz #7, 10/18  
Math 156 (Calculus I), Fall 2022

Problem 1 is worth 10 points (2.5 pts each part), for a total of 10 points. Remember to *show your work* on all problems!

1. Compute the following derivatives.

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

(b)  $\frac{d^2}{dx^2}(e^{x^2})$

[recall the notation that  $\frac{d^2}{dx^2}(f) = \frac{d}{dx}(\frac{d}{dx}(f))$ ]

(c)  $\frac{d}{dx}(\sin^2(x^2))$

[recall the notation that  $\sin^2(\theta) = (\sin(\theta))^2$ ]

(d)  $\frac{d}{dx}(\ln(5x))$