

Quiz #3, 9/13
Math 156 (Calculus I), Fall 2022

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

1. You currently have \$100 in an investment that pays continuously compounded interest with a rate of return of 10% per year.
 - (a) Let $f(x)$ be the function that tells you the amount in dollars of your investment at a time of x years from now. Write the formula for $f(x)$.
 - (b) Let $g(x)$ be the function that tells you the time (in years) at which your investment will have x dollars in it. Write the formula for $g(x)$.
 - (c) Sketch the graphs of $f(x)$ and $g(x)$.

2.
 - (a) Find the values of A and B for which $2^{x-3} = Ae^{Bx}$.
 - (b) Find the values of C and D for which $\log_5(x) + 1 = C \ln(Dx)$.