

Calculus I Quiz #6

Show your work to get your answers, AND show a check on your work to verify your answer.

Problem 1 Give the general antiderivative of $f(x) = 5 \cos(3x) - 12x^4$.

Problem 2 Solve the differential equation $y' = 5x + 2$ for $y = f(x)$ subject to the initial condition $f(1) = 6$.

Problem 3 $\int_0^1 x \sin(x^2 - 1) dx =$