

Name: _____
MAT 296

Quiz 14: Taylor Series
Fall 2017

Problem 1: Find a Taylor Series for the function $f(x) = xe^{3x^2}$ about $x = 0$.

Problem 2: Find a Taylor Series for the function $f(x) = \frac{x}{(1-x)^2}$ about $x = 0$. Use this to find the value of $\sum_{n=0}^{\infty} \frac{n}{2^n}$.

Problem 3: Find a power series representation for

$$\int \cos x^2 dx$$