2020 SPRING CALCULUS 0412: QUIZ 4 (MARCH 26, 2020)

NAME: STUDENTS ID:

1. (5 points) Let k be a positive integer, find the radius of convergence of $\displaystyle\sum_{n=0}^{\infty} \frac{(n!)^2}{(kn)!} x^n$.

2. (5 points) Show that the function $f(x) = \displaystyle\sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}$ is a solution of the differential equation $f''(x) + f(x) = 0$.