

Math 2260 Quiz 19

Name _____

Points will be deducted for untidy or disorganized answers

1. (2 points)

(a) Find a power series representation for the function

$$f(x) = \frac{x}{2+x}$$

and determine the interval of convergence.

(b) Evaluate

$$\sum_{n=0}^{\infty} \frac{(-1)^n}{2^{n+1}}$$

2. (3 points)

(a) Find the sum of the series

$$\sum_{n=1}^{\infty} (-1)^n n x^n$$

for those values of x that lie within the interval of convergence.

(b) Evaluate

$$\sum_{n=1}^{\infty} \frac{(-1)^n n}{2^n}$$