

5. [10 points]

a. [5 points] Determine the **radius** of convergence of the power series

$$\sum_{n=1}^{\infty} \frac{(-1)^n (x-5)^{4n}}{n^5 (16)^n}.$$

The radius of convergence is \_\_\_\_\_

b. [5 points] The power series  $\sum_{n=0}^{\infty} \frac{(n+2)x^n}{n^4+1}$  has radius of convergence 1. Determine the **interval** of convergence for this power series.

The interval of convergence is \_\_\_\_\_