

Problem Set 8 part 1

Find the interval of convergence for each of the following power series

① $\sum \frac{n}{4^n} x^n$

$(-4, 4)$

② $\sum \frac{x^n}{n+4}$

$[-1, 1)$

③ $\sum \frac{(3n)!}{(2n)!} x^n$

$\emptyset$

④ $\sum \frac{(-1)^n}{2n+1} x^{2n+1}$

~~$[-1, 1)$~~ $[-1, 1)$

⑤ $\sum \frac{x^n}{\ln n}$

$[-1, 1)$

⑥ $\sum \frac{(-1)^n x^n}{n(\ln n)^2}$

$[-1, 1]$