

Math 102 — Power series

Problem. For each of the following power series, find the interval and radius of convergence.

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

b. $\sum_{n=1}^{\infty} (-1)^n \frac{(x-2)^n}{\sqrt{n}5^n}$

c. $\sum_{n=1}^{\infty} (-1)^n \frac{(x+3)^n}{n^2 2^n}$

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

e. $\sum_{n=0}^{\infty} n!x^n$