Radius and Interval of Convergence

1. Find the Radius of Convergence and Interval of Convergence of the given series.

$\sum_{n=1} \frac{5^n x^n}{n^6}$

2. Find the Radius of Convergence and Interval of Convergence of the given series.

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

3. Find the Radius of Convergence and Interval of Convergence of the given series.

$\sum_{n=1} \frac{(-1)^n x^{2n}}{(2 \cdot n)!}$

4. Find the Radius of Convergence and Interval of Convergence of the given series.

$\sum_{n=1} \frac{(-1)^n x^{n+6}}{n+3}$

5. Find the Radius of Convergence and Interval of Convergence of the given series.

$\sum_{n=1} \frac{x^n}{n \cdot 7^n}$

6. Find the Radius of Convergence and Interval of Convergence of the given series.

$\sum_{n=1} \frac{(-12)^n x^n}{\sqrt{n}}$

7. Find the Radius of Convergence and Interval of Convergence of the given series.

$\sum_{n=1} \sqrt{n} x^{n+2}$

8. Find the Radius of Convergence and Interval of Convergence of the given series.

$\sum_{n=1} \frac{(-1)^n x^{n+4}}{n^4}$