# Homework Set 18

(sect 8.5: Power Series)

Find the radius of convergence and the interval of convergence for each power series.

$$\sum_{n=0}^{\infty} \frac{(-3)^n x^n}{n+1}$$

$$\sum_{n=1}^{\infty} \frac{(-1)^n x^n}{n4^n}$$

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

$$\sum_{n=0}^{\infty} \frac{(-1)^n n!\,(x+7)^n}{2^n}$$

$$\sum_{n=1}^{\infty} \sqrt{n}(2x-4)^n$$

$$\sum_{n=1}^{\infty} \frac{12(x+2)^n}{(-5)^n\sqrt{n}}$$

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

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