

Power Series

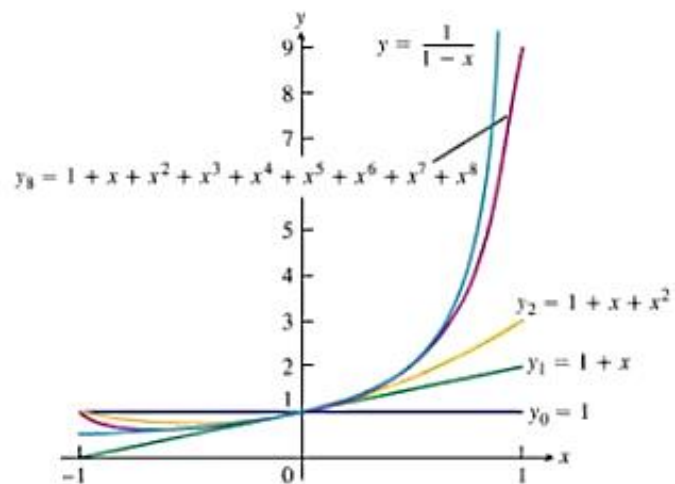
A power series about $x = 0$ is a series of the form

A power series about $x = a$ is a series of the form

Ex. Geometric series take all coefficients equal to 1 $r = x$

When will this converge?

Series radius –



$$\sum_{n=1}^{\infty} (x+5)^n$$

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

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

$$\sum_{n=1}^{\infty} \frac{3^n x^n}{n!}$$

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

Convergence Theorem for Power Series