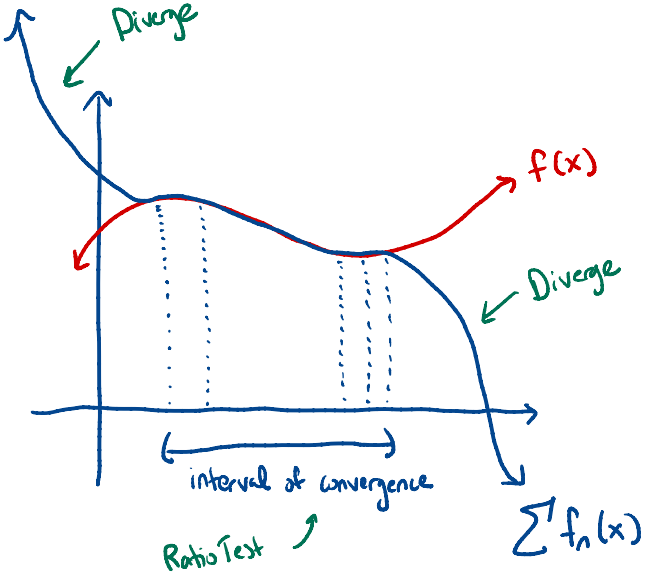
Before

Series of Numbers

$\sum a_n$

↓

Q: Converge to a number?



Next

Series of Functions

$\sum f_n(x)$

↓

Q: Does this converge to a function?

Q: For what values of x does this converge?

↓

Big idea: for each singular value of x, we get a series of numbers as before ☆

We will study: Think: infinite polynomial

Power Series

$c_0 + c_1(x-a) + c_2(x-a)^2 + \cdots$

Taylor Series

$f(a) + f'(a)(x-a) + \frac{f''(a)}{2!}(x-a)^2 + \cdots$

We will not study

Fourier Series

use sin x and cos x instead of polynomials