

11.10: BINOMIAL SERIES (not on tests)

For $(1+x)^k$ $k \leftarrow$ real # (if whole # $\Rightarrow$ get a poly. from Binomial Thm. from Precalc)
 $|x| < 1$.

why would we care
about a Σ expansion
for ...?

11.10.13

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

EX $[1 + (-x^2)]^{-\frac{1}{2}} = \frac{1}{\sqrt{1-x^2}} = \Sigma$ (See #13.)

$$\int \frac{1}{\sqrt{1-x^2}} dx = \sin^{-1} x + C$$

$\uparrow$
Get Σ

($\rightarrow$ fun w/ e^x on Handout)