

Homework Problems for Chapter 11, Section 11

(1) Find the first four nonzero terms of the Maclaurin series for $\frac{1}{(1+x)^{1/3}}$.

(2) Find the first four nonzero terms of the Maclaurin series for $\frac{1}{(1+x)^{2/3}}$.

(3) Find the first four nonzero terms of the power series which is the product of the power series in problem (1) and the power series in problem (2). Since $\frac{1}{(1+x)^{1/3}} \cdot \frac{1}{(1+x)^{2/3}} = \frac{1}{1+x}$, you know what the answer should be. This is a way to check the arithmetic in (1) and (2).

(4) Find the first four nonzero terms of the Maclaurin series for $\sqrt{1+x^4}$.