

11.9 - Functions as Power Series

Calculus II

Find a power series representation and the interval of convergence

1. $f(x) = \frac{6}{1+7x^4}$

2. $f(x) = \frac{x^3}{3-x^2}$

3. $f(x) = \frac{3x^2}{5-2\sqrt[3]{x}}$

4. $g(x) = \frac{x^3}{1+x^7}$

5. Use a power series approximate the definite integral, I, to six decimal places.

$$\int_0^{0.3} \frac{x^3}{1+x^7} dx$$