MA 126 — Fall 2016 — Prof. Clontz — Quiz

Name: _____

Choose D for "None of these"

42. Expand the first four terms of the power series $\sum_{k=0}^{\infty} \frac{(-x)^{2k+1}}{(2k)!}$.

    A. $1 + x^2 + \frac{x^3}{8} + \frac{x^5}{15} + \dots$

    B. $-x - \frac{x^3}{2} - \frac{x^5}{24} - \frac{x^7}{720} - \dots$

    C. $x - \frac{x^3}{3} + \frac{x^6}{18} - \frac{x^{10}}{27} + \dots$

43. Simplify $f(x) = \sum_{n=1}^{\infty}(-x)^{n-1} = 1 - x + x^2 - x^3 + \dots$ with domain $|x| < 1$.

    A. $f(x) = \frac{1}{1+x}$

    B. $f(x) = \frac{2x}{1-x}$

    C. $f(x) = \frac{1}{x} + 2$

44. Find the domain of $f(x) = \sum_{m=2}^{\infty} \frac{(-2x)^m}{m} = \frac{4x^2}{2} - \frac{8x^3}{3} + \frac{16x^4}{4} - \frac{32x^5}{5} + \dots$.

    A. $-\frac{1}{2} < x \leq \frac{1}{2}$

    B. $-1 < x < 1$

    C. $0 \leq x < 2$