Review Problems

March 24, 2017

1. (Fall 2007, Exam 3, #9) Which of the following is a power series representation of the function $f(x) = \dfrac{1}{x^2 - 2x + 2}$?

2. (Fall 2008, Exam 3, #13) Write $\int_0^x \dfrac{t\,dt}{1 - t^3}$ in series notation.

3. (Fall 2008, Exam 3, #14) Starting with the power series of $1/(1 + 2x)$, compute the power series that represents $1/(1 + 2x)^2$.

4. (Fall 2009, Exam 3, #10) Find the power series representation of $f(x) = \dfrac{x}{3 + 4x}$ centered at 0.

5. (Fall 2009, Exam 3, #12) Find the power series representation of $\dfrac{d}{dx}\left(\dfrac{x}{1 - 2x^3}\right)$ centered at 0.