

Calc II - A few more final type problems

Friday, December 2

Together with our [Problems off of past exams](#) sheet, I would use this as a final review sheet.

1. Consider the power series $\sum_{n=0}^{\infty} (-1)^n 2^{n+1} x^n$.
 - (a) What simple, algebraic function does this power series represent?
 - (b) Over what interval is the representation good?
2. Let $f(x) = x^3 \cos(x^5)$.
 - (a) Find the power series expansion about zero of f .
 - (b) Express $\int f(x) dx$ as a power series.

Repeat the problem with $f(x) = 1/(1 - x^8)$.

3. Let $f(x) = 1/(x + 1)$. Find the quadratic approximation of f at $x = 1$.