EXERCISE 2.9

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Exercise 1 (2.9). *Here is an attempt at using real methods to expand $H(x) = \frac{1}{1+x^2}$ into a power series centered at $x = k$, i.e., into a series of the form $H(x) = \sum_{j=0}^{\infty} c_j X^j$, where $X = (x - k)$. According to Taylor's theorem, $c_j = \frac{H^{(j)}(k)}{j!}$.*

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