Taylor Polynomial Worksheet

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1 Exercises

Find the nth taylor polynomial for each of the following functions. Write your answer using sigma notation.

I. $f(x) = e^x$, centered at $x_0 = 0$.

II. $f(x) = \sin(x)$, centered at $x_0 = 0$.

III. $f(x) = \ln(x)$, centered at $x_0 = 1$.

For each of the nth taylor polynomials above, approximate the value of $f(2)$ for $n = 1, 2, 3, 4, 5$ and report the error in each approximation.