Lab Worksheet for September 30, 2021

Practice with Taylor Polynomials.

1. a) Write out the 3ʳᵈ degree Taylor polynomial at a = 1 of the function f(x) = ln(x).

b) Using a calculator/computer, write out the first six digits of ln(1.1).

c) Letting T be the Taylor polynomial you found – and either by hand or calculator/computer – write out the first six digits of T(1.1).

d) Compare your answers from part b and c.

2. a) Write out the 5th degree Taylor polynomial at a = 0 of the function f(x) = sin(x).

b) Using a calculator/computer, write out the first six digits of sin(0.2).

c) Letting T be the Taylor polynomial you found – and either by hand or calculator/computer – write out the first six digits of T(0.2).

d) Compare your answers from part b and c.