SECTION 6.4: WORKING WITH TAYLOR SERIES (DAY 2)

(1) Write the Maclaurin Series for $f(x) = \sin(x)$ and determine its interval of convergence.

(2) Use your answer in problem 1 to find the Maclaurin series for

(a) $g(x) = x\sin(2x)$

(b) $h(x) = \cos(\sqrt{x})$

(3) Several Maclaurin Series to know:

(a) $f(x) = e^x =$

(b) $f(x) = \ln(1 + x)) =$

(c) $f(x) = \arctan(x) =$

(4) We now know the sum of the alternating harmonic series.