

SI Session: August 12th, 2008
Mondays – Thursdays
12:35 PM – 2:05 PM
Room 1229

Prof. Stockton : Calculus II
Summer II 2008
SI Leader : Neil Jody

[1] Find the n th Taylor polynomial centered at c .

(a) $f(x) = \sqrt{x}$, $n = 3$, $c = 9$

(b) $f(x) = x^2 \cos x$, $n = 2$, $c = \pi$

(c) $f(x) = xe^x, n = 4, c = 0$

(d) $f(x) = \sec x, n = 2, c = 0$

[2] Find a power series representation for $f(x) = \ln(3x + 2)$ centered at $c = 0$ and determine its interval of convergence.

[3] Find a power series representation for $f(x) = \frac{4}{3-2x}$ centered at $c = -1$ and determine the interval of convergence.

[4] Find a power series for the function, $g(x) = \frac{4x - 7}{2x^2 + 3x - 2}$ centered at 0 and determine the interval of convergence.

[5] Find a power series, centered at 0, for the following functions. Identify the interval of convergence.

(a) $h(x) = \frac{1}{4x^2 + 1}$

(b) $f(x) = \arctan 2x$

[6] Find a power series representation for the following functions using the Maclaurin series list.

(a) $f(x) = \cos x^{3/2}$

(b) $g(x) = 2 \sin x^3$