Math 242 Homework 7: due 7/29

1. 9.8 1-28; 9.9 1-18, 30-34. Do the evens.

2. Let f be a function with derivatives of all orders on an open interval containing the point a in its interior. Suppose that

$$f^{(n)}(a) = \begin{cases} 0 & n \text{ is even;} \\ \dfrac{e^a + e^{-a}}{2} & n \text{ is odd.} \end{cases}$$

   (a) What is the Taylor series generated by f at $x = 3$?

   (b) What is its Maclaurin series generated by f?

   (c) What is the radius of convergence of the Maclaurin series generated by f?