Warm-up Problems - March 23, 2006

1. For each of the functions below, find the Taylor polynomials at $x = 0$ $p_0$, $p_1$, $p_2$ and $p_3$

(a) $f(x) = \frac{100}{x+10} + 10$

(b) $f(x) = \frac{100}{x^2+10} + 10$ (Challenge: find $p_4$ and $p_6$)
Lecture Problems

2. Find the Taylor polynomials $p_0, p_1, p_2, p_3$ for $f(x) = e^x$ at $x = 2$.

3. Find the Taylor polynomials $p_0, p_1, p_2, p_3$ for $f(x) = e^{2x}$ at $x = 1$.

4. Find the Taylor polynomials $p_0, p_1, p_2, p_3$ for $f(x) = \sqrt{x}$ at $x = 1$.

5. Find the Taylor polynomials $p_0, p_1, p_2, p_3$ for $f(x) = \sqrt{1 + x}$ at $x = 8$. 