Hw 10

Q4 11AM
Info

Book
Problems
11.10  r771  2, 5, 11, 17, 25, 45, 51, 55
11.11  r780  3, 7 [find series; don’t graph]

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Practice
1) Find $T_3$ for $f(x) = (1 - x)^{-\frac{1}{2}}$, $a = 0$.
2) Find $T_4$ for $f(x) = x^{-2}$, $a = 1$.
3) Find $T_3$ for $f(x) = (1 + x)^{-2}$, $a = 0$.
4) Let $f(x) = \cos(x)$. Find $T_3$ for $a = \frac{\pi}{2}$.

Old Exam 2
1)(25 points) Use ln($A$) and a change of variable to compute
\[
\lim_{x \to \infty} \left(1 + \frac{1}{x\sqrt{x}}\right)^x
\]
2)(25 points) Does the following series converge or diverge? Why?
\[
\sum \frac{(k + 1)^2}{k^2 k!}
\]
3)(25 points) Let $f(x) = \sqrt{1 - x}$, $a = 0$. Compute derivatives, etc, to find $T_3$. Simplify.
4)(25 points) Let $W_1(x)$ be
\[
\sum_{k=0}^{\infty} \frac{(-1)^k x^{2k+1}}{(2k+1)k!}
\]
   a) Find $S_2$, $b_3$. Simplify.
   b) Use $S_2$ to compute $W_1(.2)$. Write as a decimal.
   c) How large can the error be? Write using scientific notation.