Math 116	**Test 8 (Quiz)**	Satya Mandal
Fall 07	Maximum Points 26	April 20, 2007

1. Find the 4th Taylor polynomial $P_4(x)$ of the function $f(x) = 5 + 4x + 3x^2 + 2x^3 + x^4 + x^5$ around $x = 0$.

   Answer : $P_4(x) =$

2. Find the 4th Taylor polynomial $P_4(x)$ of the function $f(x) = e^{2x}$ around $x = 0$.

   Answer : $P_4(x) =$

3. Find the 3rd Taylor polynomial $P_3(x)$ of the function $f(x) = \sqrt{x}$ around $x = 1$.

   Answer : $P_3(x) =$

4. Find the 3rd Taylor polynomial $P_3(x)$ of the function $f(x) = \frac{1}{1-x}$ around $x = 0$.

   Answer : $P_3(x) =$

5. Find the 4th Taylor polynomial $P_4(x)$ of the function $f(x) = \ln(x)$ around $x = 1$.

   Answer : $P_4(x) =$

6. Find the limit $lim_{n\to\infty}\frac{7n^2+1}{3n^2+n+2}$.

   Answer: Limit =

7. Find the limit $lim_{n\to\infty}(3 + \frac{1}{2^n})$.

   Answer: Limit =

8. Find the limit $lim_{n\to\infty}\frac{\sqrt{n}+2}{(3\sqrt{n}+2)}$.

   Answer: Limit =

9. Find the limit of the sequence $1, \frac{1}{8}, \frac{1}{27}, \frac{1}{64}, \cdots$.

   Answer: Limit =

10. Find the sum of the infinite series $1 + .7 + .7^2 + .7^3 + \cdots + .7^n + \cdots$

    Answer:

11. Find the sum of the infinite series $1 + .66 + .66^2 + .66^3 + \cdots + .66^n + \cdots$

    Answer:

12. Compute that sum $\sum_{i=0}^{\infty}\frac{2^n-8^n}{16^n}$.

    Answer:

13. Compute that sum $\sum_{i=0}^{\infty}(0.7\frac{3^n}{10^n} - 0.3\frac{7^n}{10^n})$.

    Answer: