SERIES - Extra Problems
1. Limits of Sequences

Find the following limits. On a test, for problems such as 1 - 10, you can just write down the answer.

1. $\lim_{n\to\infty} \dfrac{6n^4+20n^2-1}{-2n^5+3}$

2. $\lim_{n\to\infty} \dfrac{-4n^2+6n}{3n^2+3n+1}$

3. $\lim_{n\to\infty} \dfrac{10n^3-6n^2+n}{-3n^2+1}$

4. $\lim_{n\to\infty} \dfrac{6n^2+3}{n-100}$

5. $\lim_{n\to\infty} \dfrac{-\sqrt{3n^5+20n+4}}{8\sqrt{n^5+3n^2-n}}$

6. $\lim_{n\to\infty} \dfrac{n^2}{2\sqrt{n^5+3n^2-n}}$

7. $\lim_{n\to\infty} \dfrac{(2n^2-n+4)^4}{6(-n^4+2)^2}$

8. $\lim_{n\to\infty} \dfrac{\sqrt{3n^5+2n^2-1}}{-n^2}$

9. $\lim_{n\to\infty} \dfrac{-2\sqrt{n^{21}-7n^3+1}}{6n^{10}+2}$

10. $\lim_{n\to\infty} \dfrac{(-2n^2+6n-1)^3}{-12n^6-20}$

On the test, for limits such as 11 - 15, you need to show your work to receive credit.

11. $\lim_{n\to\infty} \left(1+\dfrac{10}{n}\right)^n$

12. $\lim_{n\to\infty} \left(\dfrac{n}{n+1}\right)^{5n}$

13. $\lim_{n\to\infty} \dfrac{6n^2(4n-1)!}{(4n+1)!}$

14. $\lim_{n\to\infty} \dfrac{3^{n+3}}{8^n}$

15. $\lim_{n\to\infty} \left(\dfrac{3n+6}{3n+2}\right)^{10n+2}$