Name: _____

CA #2

1. The nth-Term Test can be used to determine divergence for which of the following series?

   I. $\displaystyle\sum_{n=1}^{\infty} \frac{1-7n^2}{(n+1)^2}$

   II. $\displaystyle\sum_{n=1}^{\infty} \frac{n}{n+1}$

   III. $\displaystyle\sum_{n=1}^{\infty} \frac{2n}{\sqrt{4n^2+1}}$

   A. III only

   B. I and III only

   C. II and III only

   D. I, II, and III

Use the nth-Term Test for Divergence to determine if the series diverges.

2. $\displaystyle\sum_{n=1}^{\infty} \frac{3n^3 + 3n + 1}{1 - n^3}$

3. $\displaystyle\sum_{n=0}^{\infty} \frac{2^{n+1}}{\pi^n}$

4. $\displaystyle\sum_{n=1}^{\infty} \frac{e^{n+1}}{\pi^n}$

5. Verify that the infinite series $\displaystyle\sum_{n=1}^{\infty} \frac{2^n + 1}{2^{n+2}}$ diverges by using the nth-Term Test for Divergence. Show the value of the limit.