MATH 1336: Calculus III

Sections 5.2-5.5: Series Tests Practice, Round 2

Series Testing Strategy Practice, Round 2: (Test 2 Content)

For each of the following series, state which test you would use to determine the convergence or divergence behavior.

(You do not have to carry out the test in detail, but follow the argument long enough to make sure your reasoning would work.)

1. $\displaystyle\sum_{n=1}^{\infty} \frac{1}{\sqrt[5]{n}}$

2. $\displaystyle\sum_{n=1}^{\infty} \frac{n^2-1}{3n^4+1}$

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

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

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