

Name:

Section: 7 8

Determine the convergence for the following series; You may use techniques of geometric series, telescoping series,  $p$ -series, divergence test, integral test, comparison tests, absolute convergence test, and alternating series test.

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

2. 
$$\sum_{n=1}^{\infty} \frac{1}{7^n + n}$$

3. 
$$\sum_{n=2}^{\infty} (-1)^n \frac{\sqrt[3]{n}}{\sqrt[3]{n}-1}$$

$$4. \sum_{n=2}^{\infty} \frac{3 \cos n + 4 \sin n}{n^2 + \ln n}$$

$$5. \sum_{n=2}^{\infty} \frac{1}{\sqrt{n} - 1}$$

$$6. \sum_{n=1}^{\infty} \frac{n - 2}{n^3 - 10}$$