Name: Section: 11   12   13

1. Determine if the following series converge or diverge. You may only use techniques of geometric series, p-series, telescoping series, the divergence test, integral test, direct comparison, limit comparison, and alternating series test.

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

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

   (c) $\displaystyle\sum_{n=1}^{\infty} \frac{n-1}{2n^3 - n - 11}$

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

(e) $\displaystyle\sum_{n=3}^{\infty}\frac{1}{n(\ln n)^3}$

(f) $\displaystyle\sum_{n=1}^{\infty}(-1)^{n}\frac{3^n}{8^{n-1}}$