

5. (12 points) Determine whether each of the following series converges or diverges. Circle CONVERGES or DIVERGES and then BRIEFLY EXPLAIN why each series converges or diverges. In each part of the problem you will receive one point for circling the correct answer (and only the correct answer) and up to two points for your explanation.

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

DIVERGES

CONVERGES

Explanation:

(b) $\sum_{n=1}^{\infty} \frac{n^3}{n^5+2}$

DIVERGES

CONVERGES

Explanation:

(c) $\sum_{n=2}^{\infty} \frac{1}{n \ln n}$

DIVERGES

CONVERGES

Explanation:

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

DIVERGES

CONVERGES

Explanation: