

Show all work and calculations to support your answers.

1) Determine whether the following series converge or diverge. State the convergence/divergence tests that you use to support your answers.

(a) (8 points) $\sum_{n=2}^{\infty} \frac{1}{n(\ln n)^2}$

(b) (6 points) $\sum_{n=1}^{\infty} \frac{5^n}{n3^n}$

(c) (6 points) $\sum_{n=1}^{\infty} \frac{2n^2 + 5}{\sqrt{n^3 + 1}}$