

4. [10 points] Determine whether the following series converge or diverge. Show all of your work and justify your answer.

a. [5 points] $\sum_{n=1}^{\infty} \frac{8^n + 10^n}{9^n}$

b. [5 points] $\sum_{n=4}^{\infty} \frac{1}{n^3 + n^2 \cos(n)}$