

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Use the **Integral Test** to tell whether the series $\sum_{n=1}^{\infty} \frac{1}{\sqrt[4]{n}}$ converges or diverges. Please, state first why the Integral Test applies.

2. Use the **Comparison Test** to tell whether the following series converge or diverge:

(a) $\sum_{n=1}^{\infty} \frac{4+3^n}{2^n}$.

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