

The Integral Test Calculus: Early Transcendentals 5e by James Stewart
Use the Integral Test to determine whether the series is convergent or divergent.

$$1. \sum_{n=1}^{\infty} \frac{1}{n^4}$$

$$9. \sum_{n=1}^{\infty} \frac{1}{n^2 + 16}$$

$$2. \sum_{n=1}^{\infty} \frac{1}{\sqrt[4]{n}}$$

$$10. \sum_{n=1}^{\infty} \frac{n}{n^2 + 1}$$

$$3. \sum_{n=1}^{\infty} \frac{1}{3n + 1}$$

$$11. \sum_{n=2}^{\infty} \frac{1}{n \ln(n)}$$

$$4. \sum_{n=1}^{\infty} e^{-n}$$

$$12. \sum_{n=1}^{\infty} \frac{1}{n^3 + n}$$

$$5. \sum_{n=1}^{\infty} n e^{-n}$$

$$13. \sum_{n=2}^{\infty} \frac{2}{(n+1)(n-1)}$$

$$6. \sum_{n=1}^{\infty} \frac{n+2}{n+1}$$

$$14. \sum_{n=3}^{\infty} \frac{2}{n^2 - 4}$$

$$7. \sum_{n=3}^{\infty} \frac{5}{n-2}$$

$$15. \sum_{n=0}^{\infty} 2^n$$

$$8. \sum_{n=1}^{\infty} \frac{1}{n^2 + 4}$$

$$16. \sum_{n=0}^{\infty} 5^n$$