

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

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

3. 
$$\sum_{n=1}^{\infty} \frac{e^n}{1 + e^{2n}}$$

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

5. Estimate  $\sum_{n=1}^{\infty} \frac{1}{n \ln n}$  with the first  $n$  terms. How accurate is this?6. What must  $n$  be so that  $S_n$  is accurate to 0.001 for the series above?

7. 
$$\sum_{n=1}^{\infty} \frac{1}{1 + e^n}$$

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

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

10. 
$$\sum_{n=1}^{\infty} \frac{n-1}{n^3 + n}$$

11. 
$$\sum_{n=2}^{\infty} \frac{n-1}{n^3 - n}$$

12. 
$$\sum_{n=1}^{\infty} \frac{n^2 - 1}{n^3 + n}$$

13. 
$$\sum_{n=2}^{\infty} \frac{n^3 + 1}{n^3 - n}$$

$$14. \sum_{n=1}^{\infty} \frac{1}{2^n + \sqrt{n}}$$

$$15. \sum_{n=2}^{\infty} \frac{3}{\sqrt{n-1}}$$

$$16. \sum_{n=1}^{\infty} \frac{3}{4n^2 + 3n + 2}$$

$$17. \sum_{n=1}^{\infty} \frac{3}{4n^2 + 3n - 2}$$

$$18. \sum_{n=1}^{\infty} \frac{1}{2^n - 1}$$

$$19. \sum_{n=1}^{\infty} \frac{2n+1}{(n+1)^2}$$

$$20. \sum_{n=1}^{\infty} \frac{(n+1)^2}{2n+1}$$

$$21. \sum_{n=1}^{\infty} \frac{\ln n}{n^{3/2}}$$

$$22. \sum_{n=1}^{\infty} \frac{3n^2 + 5n}{2^n (n^2 + 1)}$$

$$23. \sum_{n=1}^{\infty} \frac{3n^2 + \sqrt{n}}{5 + n^{-1} + n^{7/2}}$$

$$24. \sum_{n=1}^{\infty} \frac{n!}{n^n}$$

$$25. \sum_{n=1}^{\infty} \frac{(3n^2 + 5n)n^n}{(n^2 + 1)n!}$$

$$26. \sum_{n=1}^{\infty} \frac{n^{2n}}{(2n)!}$$

$$27. \sum_{n=1}^{\infty} \frac{n(-2)^n (n+1)!}{3^n n!}$$

$$28. \sum_{n=1}^{\infty} \frac{3n^2 + 5n}{2^n (n^2 + 1)}$$

$$29. \sum_{n=1}^{\infty} \frac{2^{3n+1}}{n^n}$$

$$30. \sum_{n=1}^{\infty} \frac{\ln^n n}{n^n}$$

$$31. \sum_{n=1}^{\infty} (-1)^n \frac{n-1}{2n^2+3}$$

$$32. \sum_{n=1}^{\infty} (-1)^n \frac{n^2-1}{2n^2+3}$$

$$33. \sum_{n=1}^{\infty} \frac{\sin n}{2n^2+3}$$

$$34. \sum_{n=1}^{\infty} (\sqrt[n]{2} - 1)$$