

Use a convergence test of your choice to determine whether the following series converge or diverge.

23.  $\sum_{k=1}^{\infty} k^{-2/3}$

47.  $\sum_{k=1}^{\infty} \frac{(-1)^{k+1} 10^k}{k!}$

24.  $\sum_{k=1}^{\infty} \frac{2k^2 + 1}{\sqrt{k^3 + 2}}$

34.  $\sum_{k=4}^{\infty} \frac{2}{k^2 - 10}$

26.  $\sum_{k=1}^{\infty} \left( \frac{k}{k+3} \right)^{2k}$

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

27.  $\sum_{k=1}^{\infty} \frac{2^k k!}{k^k}$

45.  $\sum_{k=1}^{\infty} (-1)^k k e^{-k}$

28.  $\sum_{k=1}^{\infty} \frac{1}{\sqrt{k} \sqrt{k+1}}$

37.  $\sum_{k=0}^{\infty} \frac{2 \cdot 4^k}{(2k+1)!}$

$$50. \sum_{k=0}^{\infty} \frac{(-1)^k}{e^k + e^{-k}}$$

$$33. \sum_{k=1}^{\infty} k^5 e^{-k}$$

$$36. \sum_{k=1}^{\infty} k e^{-k}$$

$$38. \sum_{k=0}^{\infty} \frac{9^k}{(2k)!}$$

$$48. \sum_{k=2}^{\infty} \frac{(-1)^k}{k \ln k}$$

$$44. \sum_{k=1}^{\infty} \frac{(-1)^{k+1}(k^2 + 4)}{2k^2 + 1}$$

$$30. \sum_{k=1}^{\infty} k \sin \frac{1}{k}$$

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

$$46. \sum_{k=1}^{\infty} \frac{(-1)^k}{\sqrt{k^2 + 1}}$$

$$31. \sum_{k=1}^{\infty} \frac{\sqrt[3]{k}}{k^3}$$