Symbolab

Series

Convergence Tests

Telescoping Series Test

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

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

3. $convergence\ \sum_{n=1}^{\infty}\ \frac{1}{9n^2+3n-2}$

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

5. $convergence\ \sum_{n=1}^{\infty}\ \frac{1}{4n^2-1}$

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

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

8. $convergence\ \sum_{n=1}^{\infty}\ e^{-10n}-e^{-10(n+1)}$

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

10. $convergence\ \sum_{n=1}^{\infty}\ \left(\frac{1}{\sqrt[3]{n}}-\frac{1}{\sqrt[3]{n+1}}\right)$

Symbolab

Answers

Series

Convergence Tests

Telescoping Series Test

1. 1
2. 1
3. $\frac{1}{6}$
4. $\frac{1}{4}$
5. $\frac{1}{2}$
6. 1
7. $\frac{1}{2}$
8. $\frac{1}{e^{10}}$
9. 10
10. 1