Series

Convergence Tests

Geometric Series Test

1. $convergence \sum_{n=0}^{\infty} \dfrac{1}{2^n}$

2. $convergence \sum_{n=0}^{\infty} \dfrac{1}{e^n}$

3. $convergence \sum_{n=0}^{\infty} (-1)^n$

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

5. $convergence \sum_{n=0}^{\infty} \left(\dfrac{e}{10}\right)^n$

6. $convergence \sum_{n=0}^{\infty} \left(\dfrac{2}{3}\right)^n$

7. $convergence \sum_{i=0}^{\infty} \left(\dfrac{1}{5}\right)^i$

8. $convergence \sum_{n=0}^{\infty} \left(\dfrac{e}{\pi}\right)^n$

9. $convergence \sum_{n=0}^{\infty} \dfrac{1}{3^n}$

10. $convergence \sum_{n=0}^{\infty} 0.5^n$

Answers

Series

Convergence Tests

Geometric Series Test

1. 2

2. $\dfrac{e}{e-1}$

3. diverges

4. diverges

5. $\dfrac{10}{10-e}$

6. 3

7. $\dfrac{5}{4}$

8. converges

9. $\dfrac{3}{2}$

10. 2