Series

Convergence Tests

Ratio Test

1. $convergence \ \sum_{n=1}^{\infty} \dfrac{10^n}{2^{n^2}}$

2. $convergence \ \sum_{n=1}^{\infty} n!\left(\dfrac{1}{3}\right)^n$

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

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

5. $convergence \ \sum_{n=1}^{\infty} \dfrac{100^n}{n!}$

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

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

8. $convergence \ \sum_{n=1}^{\infty} \dfrac{n}{n!}$

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

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

Answers

Series

Convergence Tests

Ratio Test

1. converges

2. diverges

3. converges

4. converges

5. converges

6. converges

7. converges

8. converges

9. converges

10. diverges