

This print-out should have 15 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

001 10.0 points

Determine whether the series

$$\sum_{n=1}^{\infty} \frac{(-1)^{n+8}}{\sqrt[4]{n}}$$

is absolutely convergent, conditionally convergent, or divergent.

1. conditionally convergent
2. divergent
3. absolutely convergent

002 10.0 points

Which one of the following properties does the series

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

have?

1. conditionally convergent
2. divergent
3. absolutely convergent

003 10.0 points

Which one of the following properties does the series

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

have?

1. conditionally convergent

2. absolutely convergent

3. divergent

004 10.0 points

Determine whether the series

$$\sum_{m=1}^{\infty} (-1)^{m-1} \frac{3}{\sqrt{1+m^2}}$$

is absolutely convergent, conditionally convergent, or divergent.

1. conditionally convergent
2. absolutely convergent
3. divergent

005 10.0 points

Determine whether the series

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

is conditionally convergent, absolutely convergent, or divergent.

1. series is absolutely convergent
2. series is conditionally convergent
3. series is divergent

006 10.0 points

Which one of the following properties does the series

$$\sum_{n=1}^{\infty} \frac{n(-8)^n}{5^{n-1}}$$

have?

1. divergent

2. conditionally convergent

3. absolutely convergent

007 10.0 points

Determine whether the series

$$\sum_{n=0}^{\infty} \frac{(-4)^n}{(2n)!}$$

is absolutely convergent, conditionally convergent, or divergent.

1. conditionally convergent

2. absolutely convergent

3. divergent

008 10.0 points

Determine whether the following series

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

is absolutely convergent, conditionally convergent, or divergent.

1. conditionally convergent

2. absolutely convergent

3. divergent

009 10.0 points

Determine whether the following series

$$\sum_{n=1}^{\infty} (-1)^n \frac{n!}{8^n}$$

is absolutely convergent, conditionally convergent, or divergent.

1. absolutely convergent

2. conditionally convergent

3. divergent

010 10.0 points

Decide whether the series

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

converges or diverges.

1. diverges

2. converges

011 10.0 points

Determine whether the following series

$$\sum_{n=1}^{\infty} \frac{3n+4}{(2n)!}$$

is absolutely convergent, conditionally convergent, or divergent.

1. conditionally convergent

2. absolutely convergent

3. divergent

012 10.0 points

Determine whether the following series

$$\sum_{n=1}^{\infty} (-1)^{n-1} \frac{2^n}{4n^2+5}$$

is absolutely convergent, conditionally convergent, or divergent.

1. absolutely convergent

2. conditionally convergent

3. divergent

013 10.0 points

Determine whether the following series

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

is absolutely convergent, conditionally convergent, or divergent.

1. absolutely convergent
2. conditionally convergent
3. divergent

014 10.0 points

Determine whether the following series

$$\sum_{n=1}^{\infty} 6^{-n} n!$$

is absolutely convergent, conditionally convergent, or divergent.

1. divergent
2. absolutely convergent
3. conditionally convergent

015 10.0 points

Determine whether the following series

$$\sum_{n=1}^{\infty} (-1)^{n-1} \frac{5n^2 + 4}{2^n}$$

is absolutely convergent, conditionally convergent, or divergent.

1. conditionally convergent
2. divergent
3. absolutely convergent