

1. (1 pt) Match each of the following with the correct statement.

- A. The series is absolutely convergent.
C. The series converges, but is not absolutely convergent.
D. The series diverges.

—1. $\sum_{n=1}^{\infty} \frac{n^3}{6^n}$
—2. $\sum_{n=1}^{\infty} \frac{(-1)^n}{5^n n!}$
—3. $\sum_{n=1}^{\infty} \frac{(-1)^n 5^{n-1}}{(5)^{n+1} n^{\frac{1}{6}}}$
—4. $\sum_{n=1}^{\infty} \frac{(n+2)!}{10^n n!}$
—5. $\sum_{n=1}^{\infty} (-1)^n \frac{n!}{4^n}$

2. (1 pt) Match each of the following with the correct statement.

- A. The series is absolutely convergent.
C. The series converges, but is not absolutely convergent.
D. The series diverges.

—1. $\sum_{n=1}^{\infty} \frac{(n+6)^n}{6^{n^2}}$
—2. $\sum_{n=1}^{\infty} \frac{(-4n)^n}{n^{7n}}$
—3. $\sum_{n=1}^{\infty} (-1)^{n+1} \frac{(3+n)4^n}{(n^2)4^{2n}}$

—4. $\sum_{n=1}^{\infty} (-1)^n n^{-1} \ln(n+5)$
—5. $\sum_{n=1}^{\infty} \left(\frac{n^3}{6-10n^2} \right)^n$
—6. $\sum_{n=1}^{\infty} \frac{(n+6)^n}{6^n}$

3. (1 pt) Determine whether the series is absolutely convergent, conditionally convergent, or divergent:

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

Input A for absolutely convergent, C for conditionally convergent, and D for divergent: ____

Note: You have only one chance to enter your answer.

4. (1 pt) Determine whether the series is absolutely convergent, conditionally convergent, or divergent:

$$\sum_{n=1}^{\infty} \frac{(-3)^n}{n^4}$$

Input A for absolutely convergent, C for conditionally convergent, and D for divergent: ____

Note: You have only one chance to enter your answer.

5. (1 pt) Determine whether the series is absolutely convergent, conditionally convergent, or divergent:

$$\sum_{n=1}^{\infty} \frac{n(-2)^n}{8^n}$$

Input A for absolutely convergent, C for conditionally convergent, and D for divergent: ____

Note: You have only one chance to enter your answer.