

Please show **all** your work! Answers without supporting work will not be given credit.

Clearly mention what theorem(s), if any, you are using.

Write answers in spaces provided.

You have 15 minutes to complete this Quiz.

You can get MAXIMUM ($4 \times 5 =$)20 marks.

Name:

Determine whether the following series converge or diverge. You must clearly specify any test(s) that you are using.

1. $\sum_{k=1}^{\infty} \frac{k+3}{\sqrt{k^5+5}}$

2. $\sum_{k=1}^{\infty} \frac{3k}{2^k}$

3. $\sum_{k=1}^{\infty} \frac{(3k)!}{2^k k!}$

4. $\sum_{k=1}^{\infty} \frac{1}{k(\ln(k)+1)}$