

Quiz #10a: Sections 9.1 & 9.2

Show all work to get full credit. Don't jump to conclusions.
If a limit does not exist, explain/show why. Leave answers in exact form.

Series

1. Determine whether the series converges or diverges. If it converges, find its sum.
If you use a convergence test, state which one you used.

8 pts.

(a) $\sum_{n=1}^{\infty} 7 \left(\frac{-1}{3}\right)^{n-1} + 3 \left(\frac{1}{5}\right)^{n-1}$

8 pts.

(b) $\sum_{n=1}^{\infty} \frac{5n}{7n+1}$

Sequences

- 5 pts. 2. Determine whether the sequence converges or diverges. If it converges, find its limit.

$$a_n = \left(\frac{-2}{3}\right)^n$$

3. Given the sequence $a_n = \frac{5n - 4}{3^n}$

- 3 pts. (a) Write out the first 4 terms of the sequence.

- 6 pts. (b) Determine whether or not the sequence converges. Explain your answer.

Points earned: _____ out of a possible 30 points